

Agisoft Metashape Drone data Feb 2023 Uganda

**Report processing drone data - Elgon - Uganda - Hosea Opedes & Sander Mucher
(WUR)**

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Survey Data

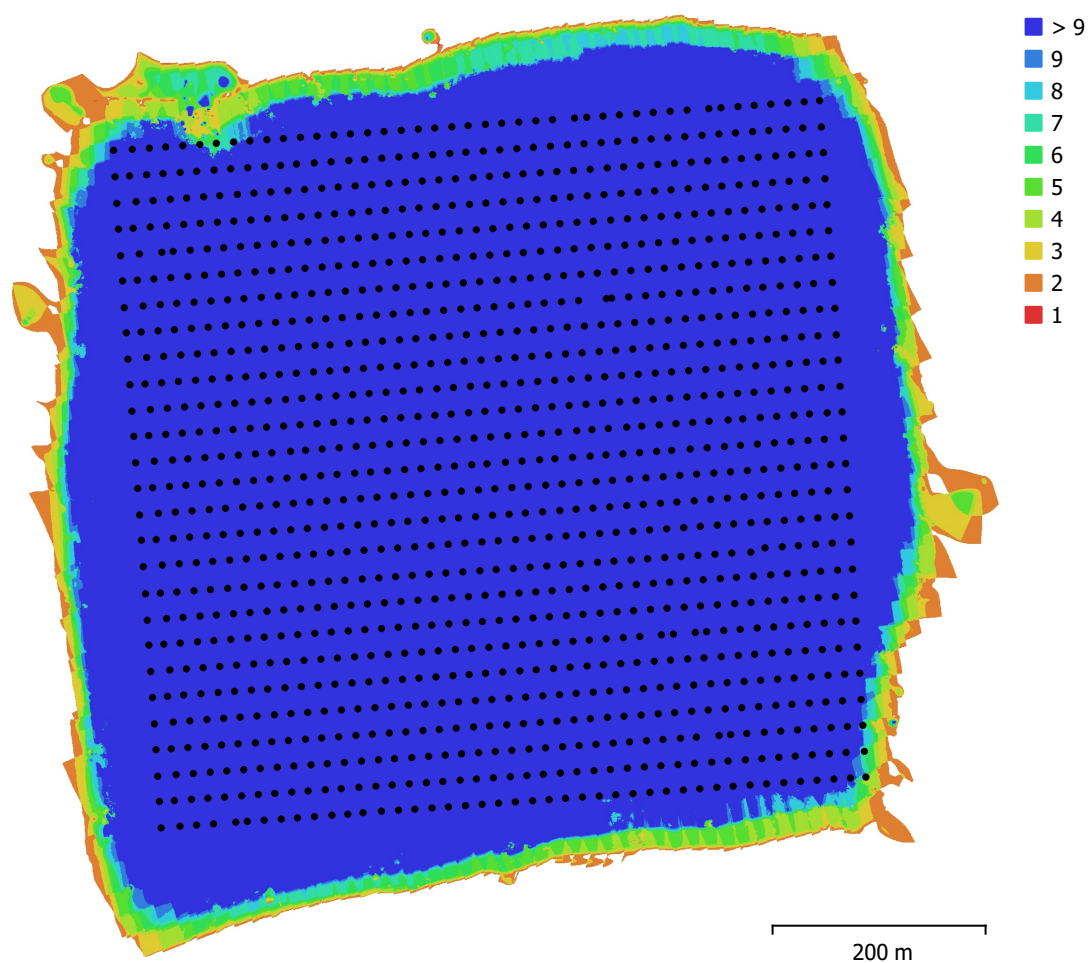


Chart 1a. Camera locations and image overlap.

Number of images:	1,161	Camera stations:	1,161
Flying altitude:	139 m	Tie points:	1,977,517
Ground resolution:	3.49 cm/pix	Projections:	7,225,473
Coverage area:	0.627 km ²	Reprojection error:	1.82 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC6310S (8.8mm)	5472 x 3648	8.8 mm	2.41 x 2.41 μm	No

Chart 1b. Cameras.

Camera Calibration

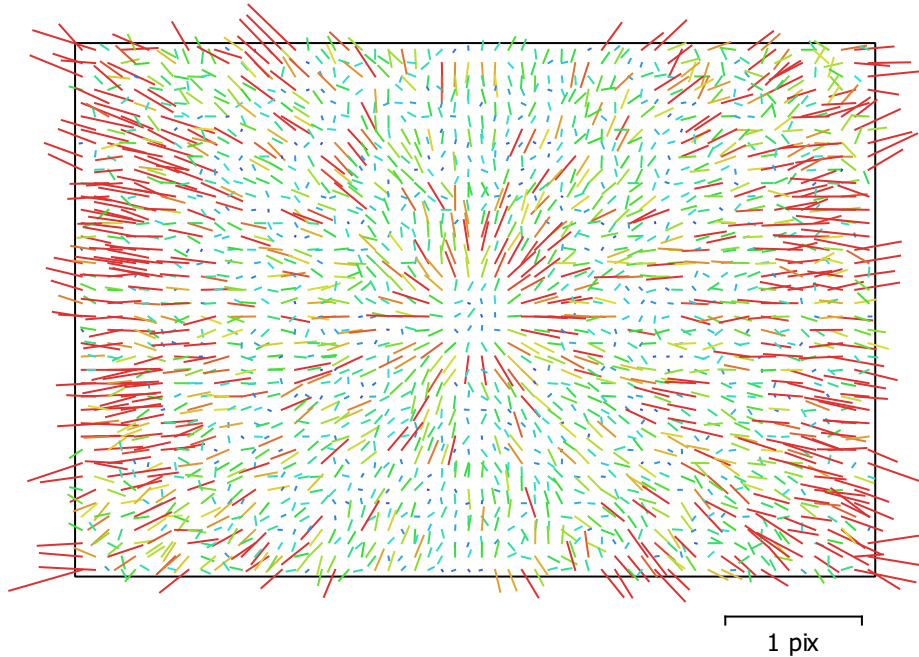


Chart 2a. Image residuals for FC6310S (8.8mm).

FC6310S (8.8mm)

1161 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	8.8 mm	2.41 x 2.41 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	3701.81	0.75	1.00	-0.34	0.19	-0.14	0.01	0.20	-0.08	-0.42
Cx	-0.810238	0.016		1.00	-0.02	0.04	0.00	-0.07	0.70	0.16
Cy	-18.1363	0.012			1.00	-0.03	-0.00	0.04	0.02	0.44
K1	-0.0116346	2.5e-05				1.00	-0.74	0.66	-0.03	0.05
K2	0.000279329	5.4e-05					1.00	-0.96	0.01	0.01
K3	0.00834052	4.9e-05						1.00	-0.02	-0.09
P1	-0.000340577	1.1e-06							1.00	0.06
P2	-0.00161829	8.8e-07								1.00

Chart 2b. Calibration coefficients and correlation matrix.

Camera Locations

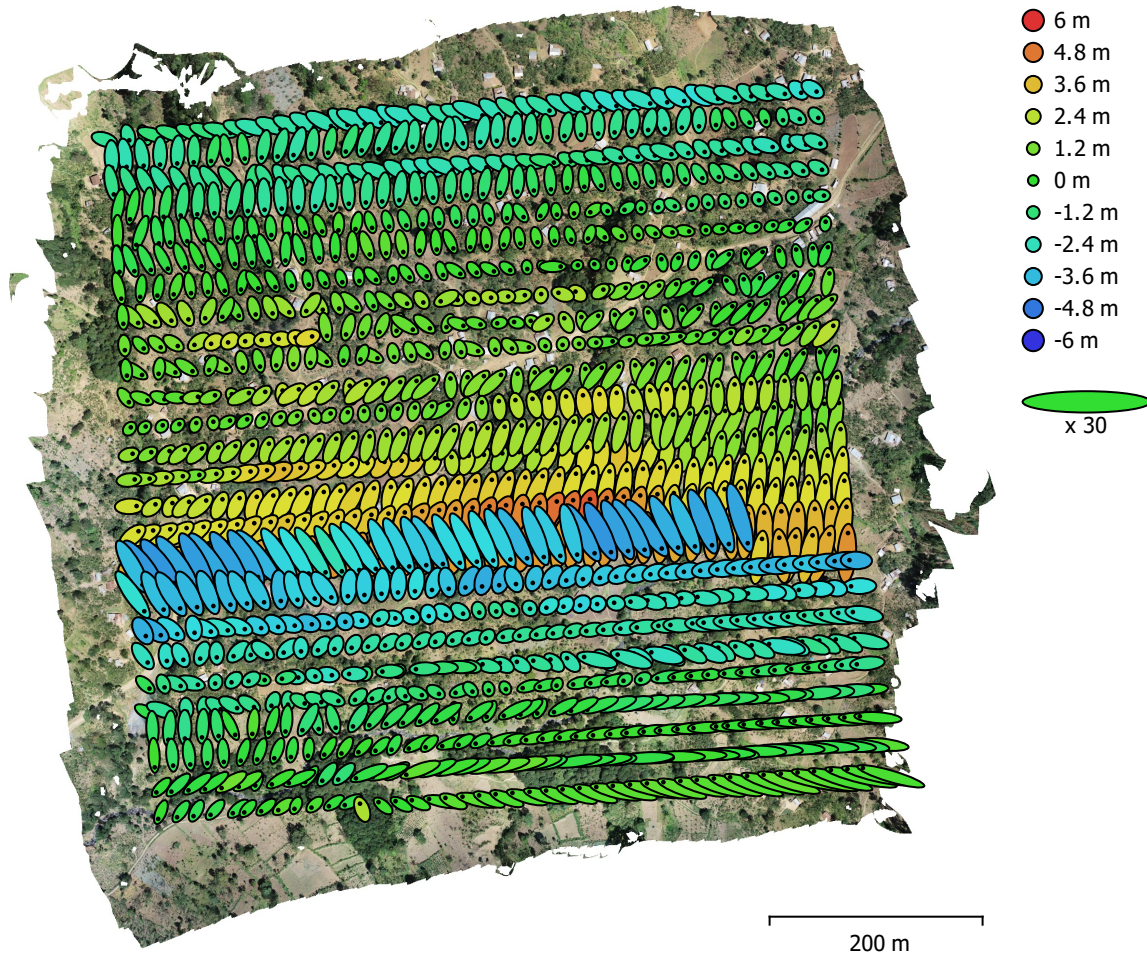


Chart 3a. Camera locations and error estimates.

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 (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
0.450176	0.533175	2.05551	0.697806	2.17073

Chart 3b. Average camera location error. X
- Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

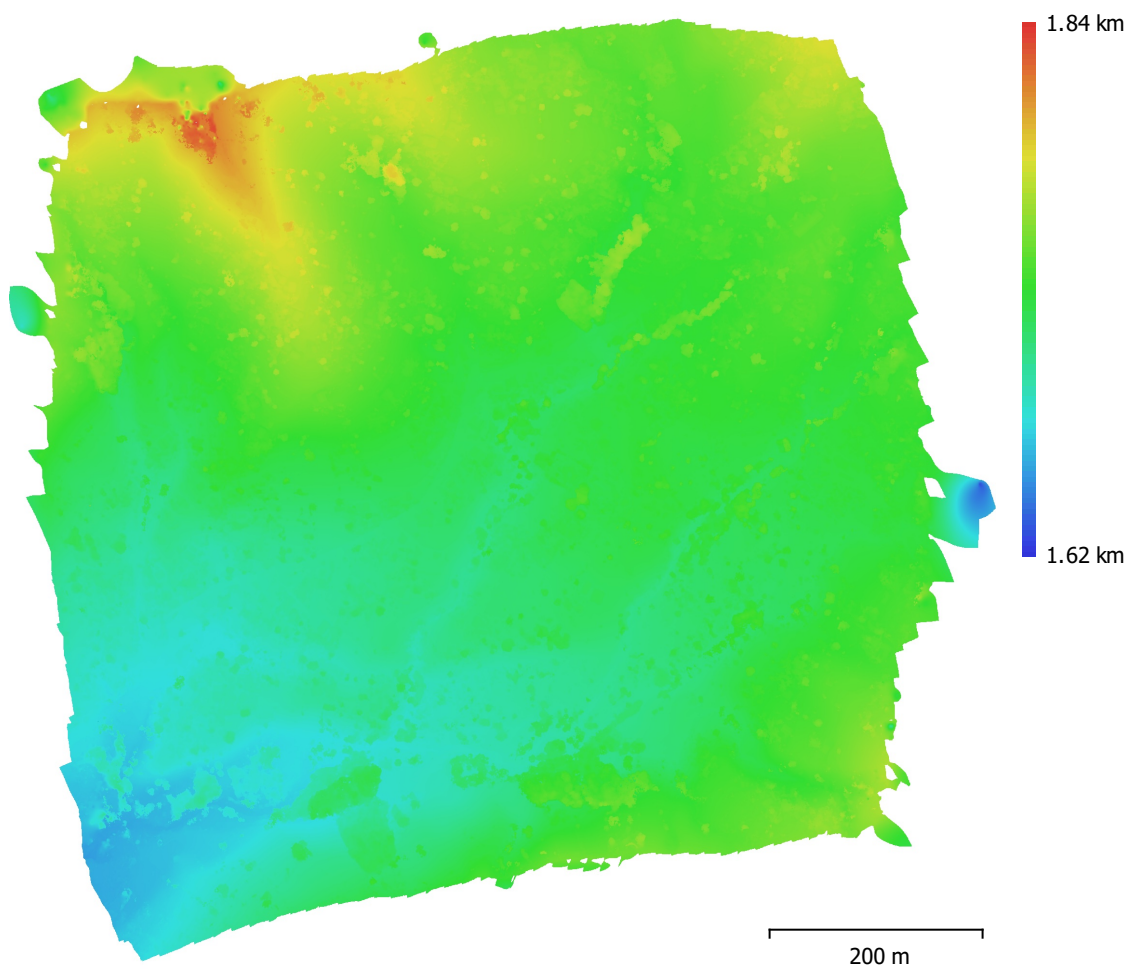


Chart 4. Reconstructed digital elevation model.

Resolution: 13.9 cm/pix
Point density: 51.4 points/m²

Processing Parameters

General

Cameras	1161
Aligned cameras	1161
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	1,977,517 of 2,190,738
RMS reprojection error	0.162127 (1.81739 pix)
Max reprojection error	0.492717 (74.2706 pix)
Mean key point size	8.29033 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.43866

Alignment parameters

Accuracy	Medium
Generic preselection	Yes
Reference preselection	Source
Key point limit	4,000,000
Key point limit per Mpx	1,000
Tie point limit	4,000,000
Exclude stationary tie points	No
Guided image matching	No
Adaptive camera model fitting	No
Matching time	10 minutes 39 seconds
Matching memory usage	837.12 MB
Alignment time	12 minutes 44 seconds
Alignment memory usage	1.47 GB
Date created	2023:02:28 13:17:33
Software version	1.7.3.12473
File size	274.09 MB

Depth Maps

Count	1161
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	22 minutes 45 seconds
Memory usage	3.11 GB
Date created	2023:02:28 13:53:18
Software version	1.7.3.12473
File size	2.41 GB

Dense Point Cloud

Points	63,583,740
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	22 minutes 45 seconds
Memory usage	3.11 GB
Dense cloud generation parameters	
Processing time	58 minutes 45 seconds

Memory usage	7.99 GB
Date created	2023:02:28 14:52:04
Software version	1.7.3.12473
File size	912.62 MB
DEM	
Size	9,225 x 8,984
Coordinate system	WGS 84 (EPSG::4326)
Reconstruction parameters	
Source data	Dense cloud
Interpolation	Enabled
Processing time	52 seconds
Memory usage	312.40 MB
Date created	2023:02:28 14:52:57
Software version	1.7.3.12473
File size	120.72 MB
Orthomosaic	
Size	26,576 x 25,356
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	16 minutes 33 seconds
Memory usage	7.17 GB
Date created	2023:02:28 15:04:55
Software version	1.7.3.12473
File size	30.72 GB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.3 build 12473
OS	Windows 64 bit
RAM	63.73 GB
CPU	Intel(R) Core(TM) i9-10900X CPU @ 3.70GHz
GPU(s)	NVIDIA GeForce RTX 2080 Ti