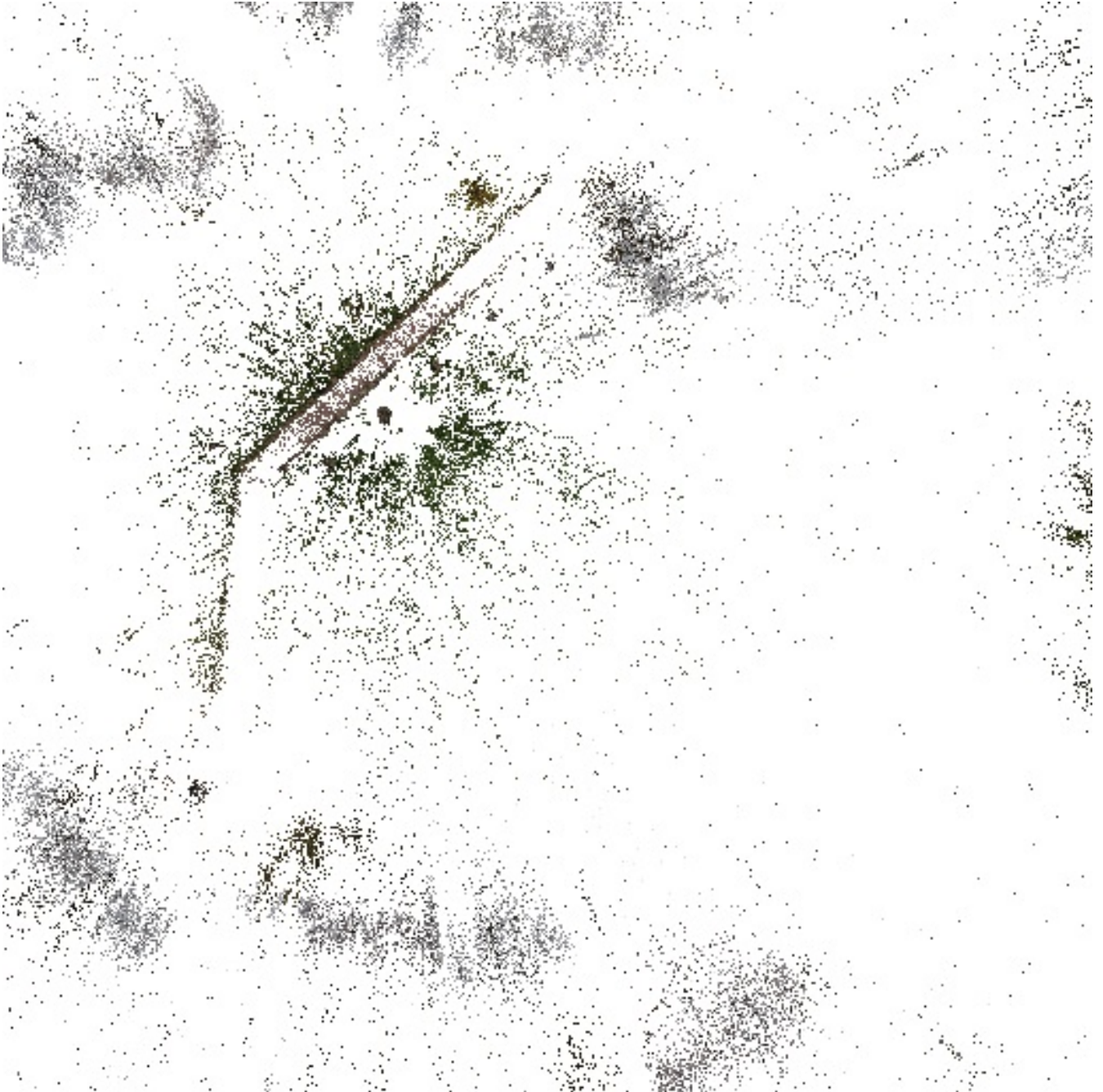


Agisoft Metashape

Processing Report
10 December 2019



Survey Data

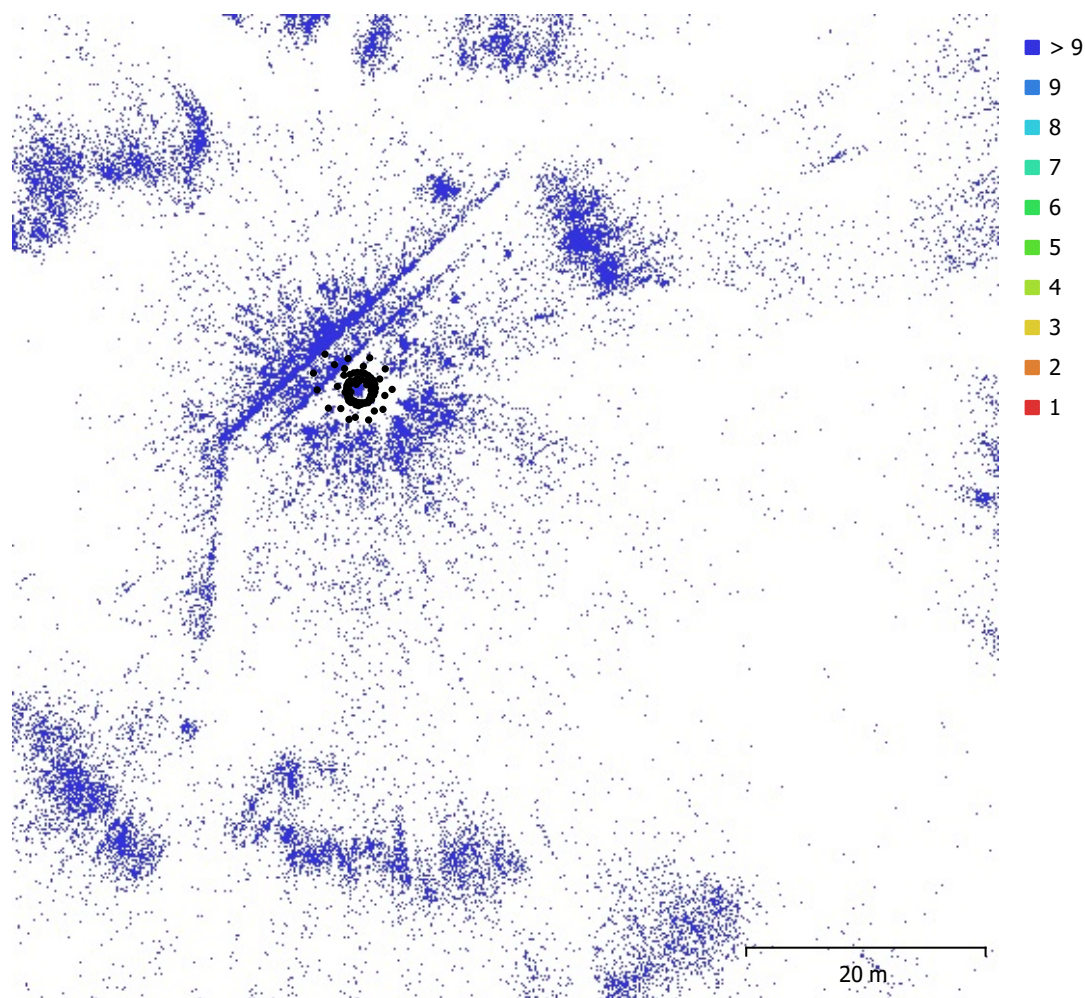


Fig. 1. Camera locations and image overlap.

Number of images:	100	Camera stations:	100
Flying altitude:	29.6 m	Tie points:	75,845
Ground resolution:	1.47 cm/pix	Projections:	198,943
Coverage area:	524 m ²	Reprojection error:	0.801 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
HERO6 Black (3mm)	4000 x 3000	3 mm	1.73 x 1.73 μ m	No

Table 1. Cameras.

Camera Calibration

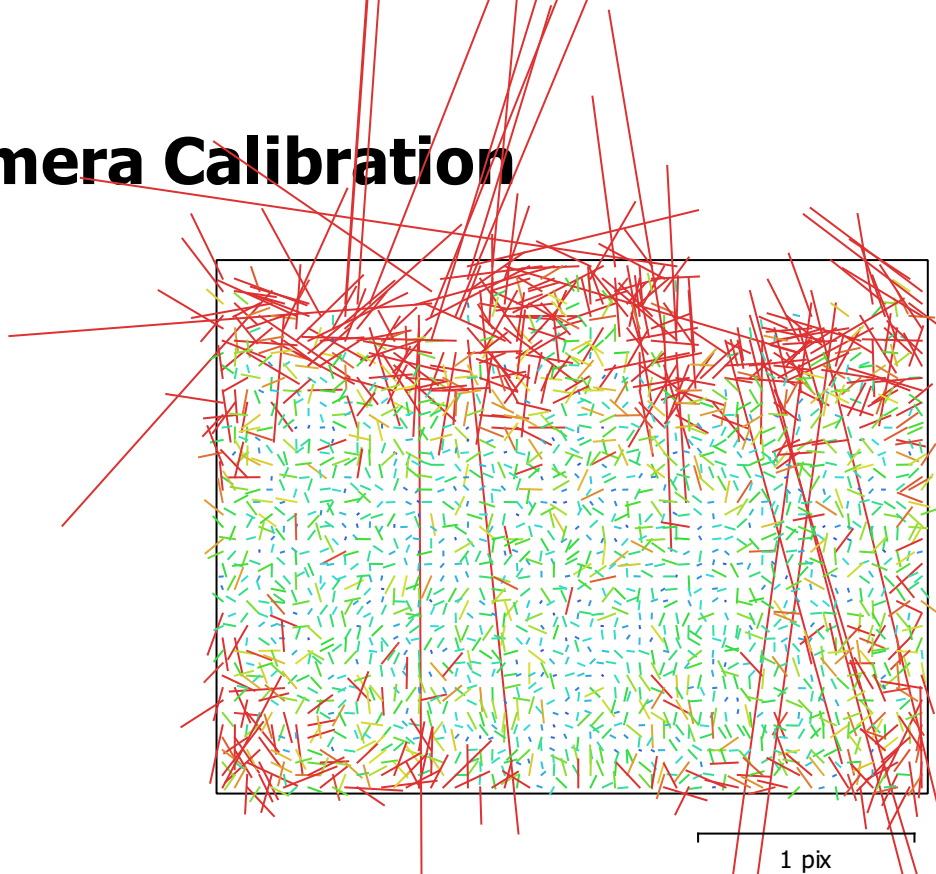


Fig. 2. Image residuals for HERO6 Black (3mm).

HERO6 Black (3mm)

100 images

Type
Frame

Resolution
4000 x 3000

Focal Length
3 mm

Pixel Size
1.73 x 1.73 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	2004.89	0.03	1.00	0.01	0.29	-0.74	0.68	-0.60	0.02	0.30
Cx	-0.115139	0.053		1.00	-0.01	-0.02	0.01	-0.01	0.96	0.01
Cy	6.77285	0.069			1.00	0.04	0.00	-0.01	-0.01	0.86
K1	-0.00153644	6.2e-005				1.00	-0.97	0.91	-0.02	0.04
K2	0.00255554	0.0001					1.00	-0.98	0.02	0.00
K3	-0.000912422	5.2e-005						1.00	-0.01	-0.01
P1	-0.000107123	9.7e-006							1.00	0.00
P2	0.000933924	1e-005								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

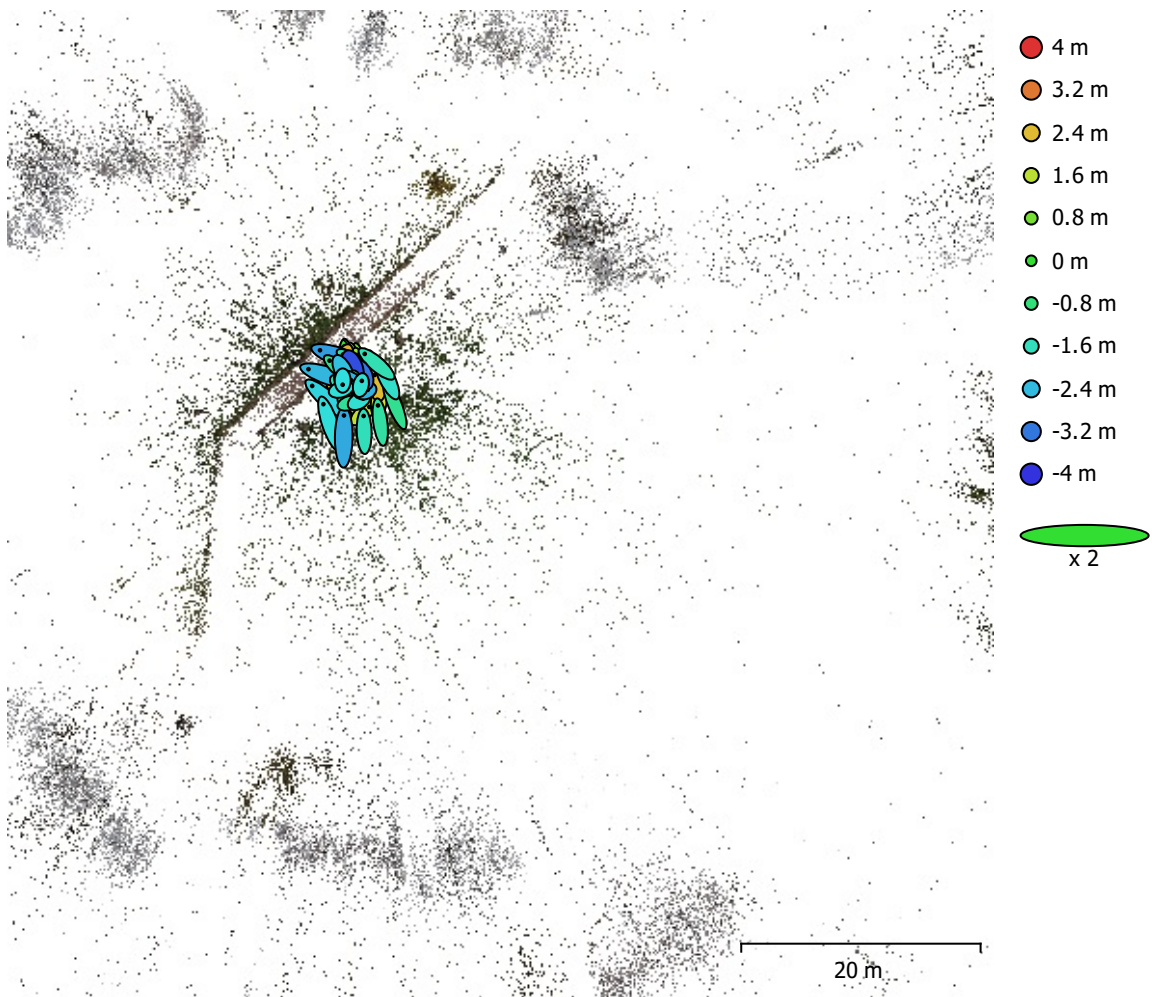


Fig. 3. Camera locations and error estimates.

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 (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
0.490563	0.692631	1.59585	0.848758	1.80752

Table 3. Average camera location error.

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

Digital Elevation Model

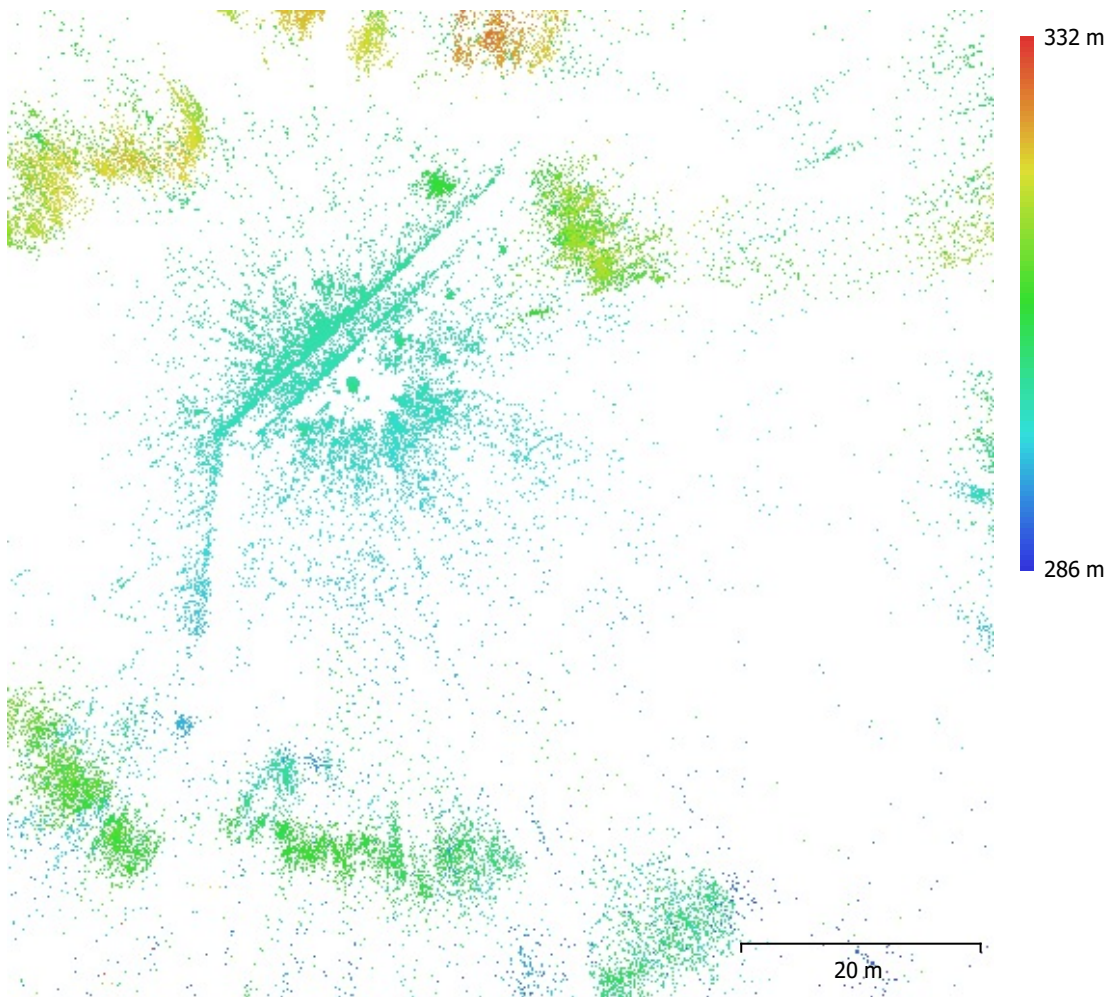


Fig. 4. Reconstructed digital elevation model.

Resolution: unknown
Point density: unknown

Processing Parameters

General

Cameras	100
Aligned cameras	100
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	75,845 of 86,652
RMS reprojection error	0.164821 (0.800885 pix)
Max reprojection error	0.500584 (28.8226 pix)
Mean key point size	4.38011 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	2.76983

Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	Yes
Key point limit	40,000
Tie point limit	4,000
Adaptive camera model fitting	No
Matching time	5 minutes 1 seconds
Alignment time	22 seconds
Software version	1.5.2.7838

Software

Version	1.5.2 build 7838
Platform	Windows 64