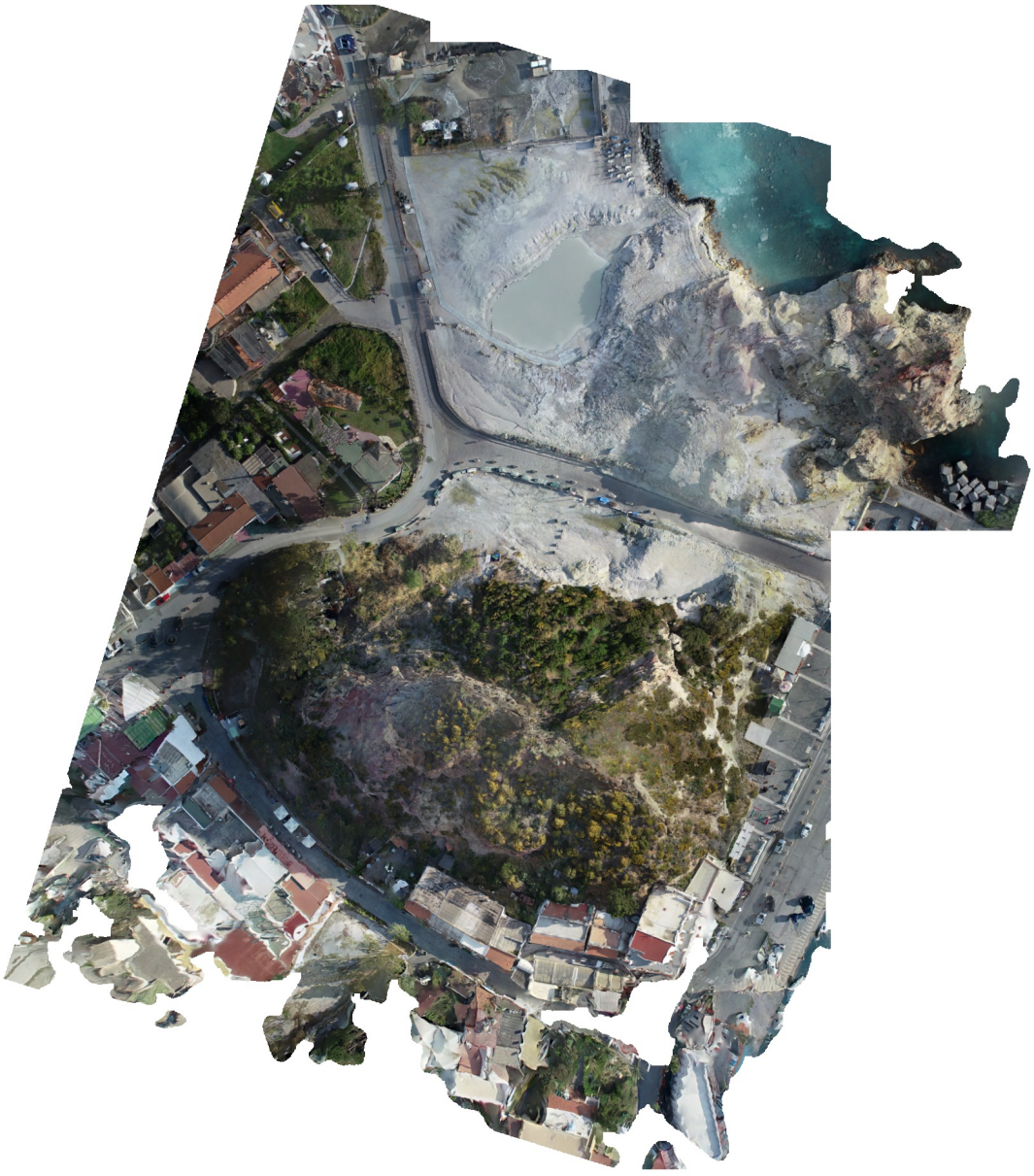
Agisoft PhotoScan

Processing Report

29 October 2018



Survey Data

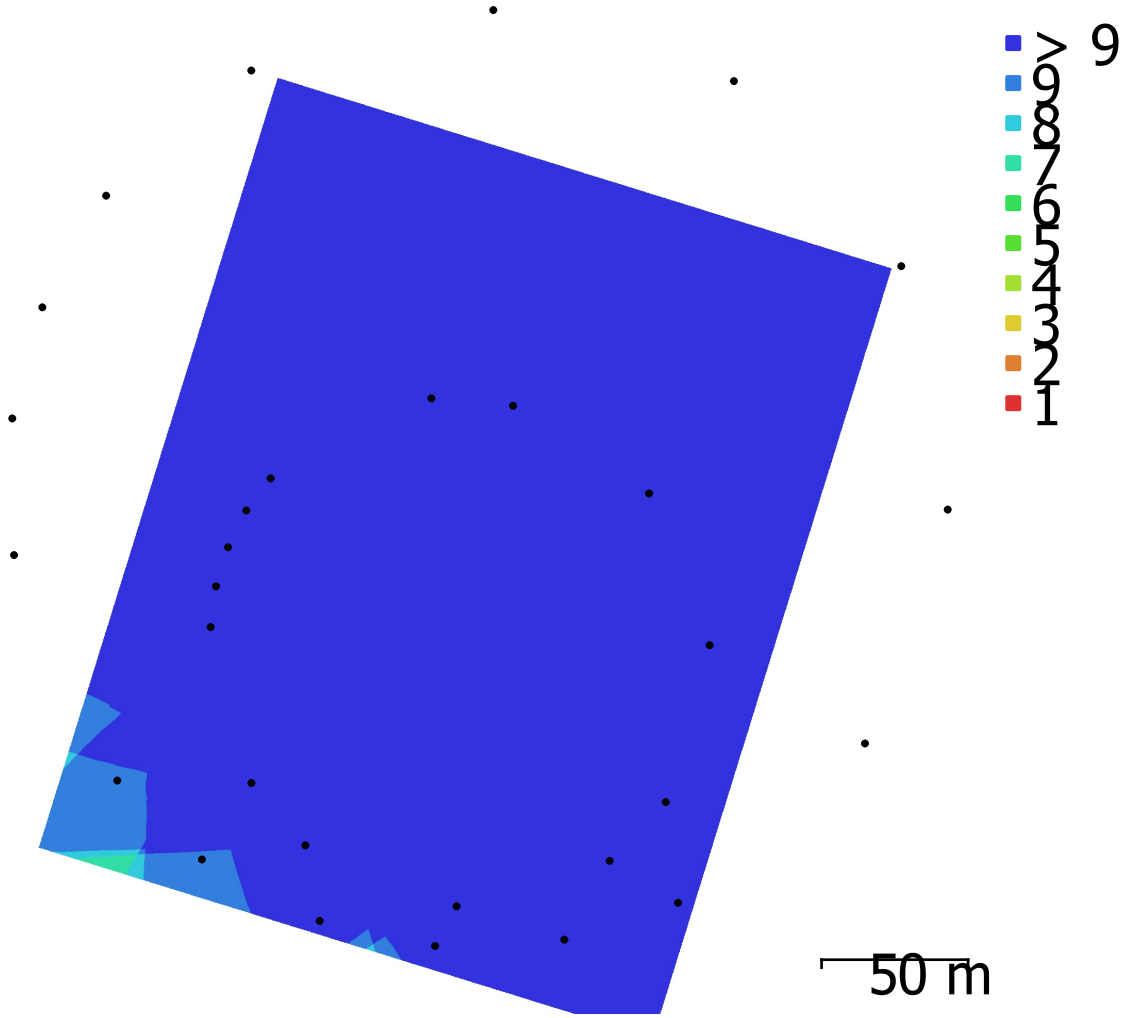


Fig. 1. Camera locations and image overlap.

Number of images:	30	Camera stations:	30
Flying altitude:	127 m	Tie points:	25,213
Ground resolution:	2.86 cm/pix	Projections:	57,905
Coverage area:	0.0601 km²	Reprojection error:	0.707 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC6310 (8.8mm)	5472 x 3648	8.8 mm	2.41 x 2.41 µm	No

Table 1. Cameras.

Camera Calibration

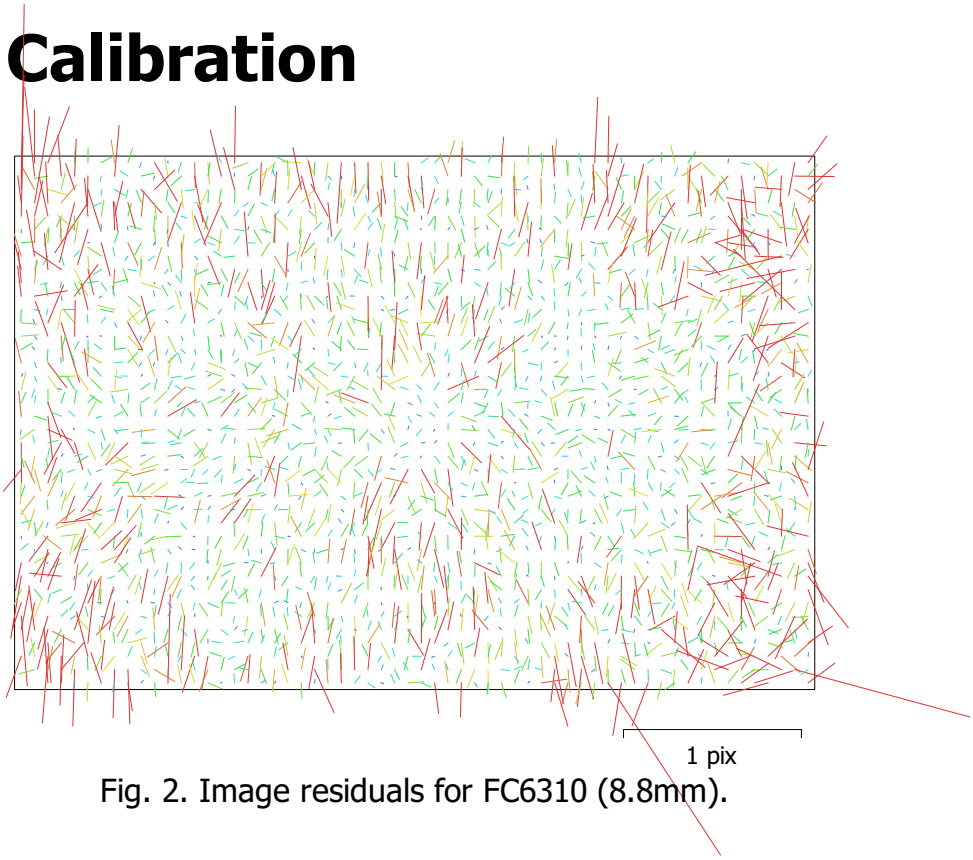


Fig. 2. Image residuals for FC6310 (8.8mm).

FC6310 (8.8mm)

30 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	**3663.1**	0.28	1.00	0.05	-0.83	-0.17	0.16	-0.13	0.12	-0.45
Cx	**-13.8515**	0.27		1.00	-0.00	0.05	-0.05	0.05	0.92	0.01
Cy	**5.51611**	0.37			1.00	-0.10	0.08	-0.08	-0.06	0.60
K1	**0.00201908**	0.00018				1.00	-0.95	0.88	0.05	-0.19
K2	**-0.0113573**	0.00053					1.00	-0.98	-0.05	0.13
K3	**0.0123404**	0.00048						1.00	0.04	-0.09
P1	**-2.15389e-05**	2.6e-05							1.00	-0.05
P2	**-0.000133249**	1.7e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

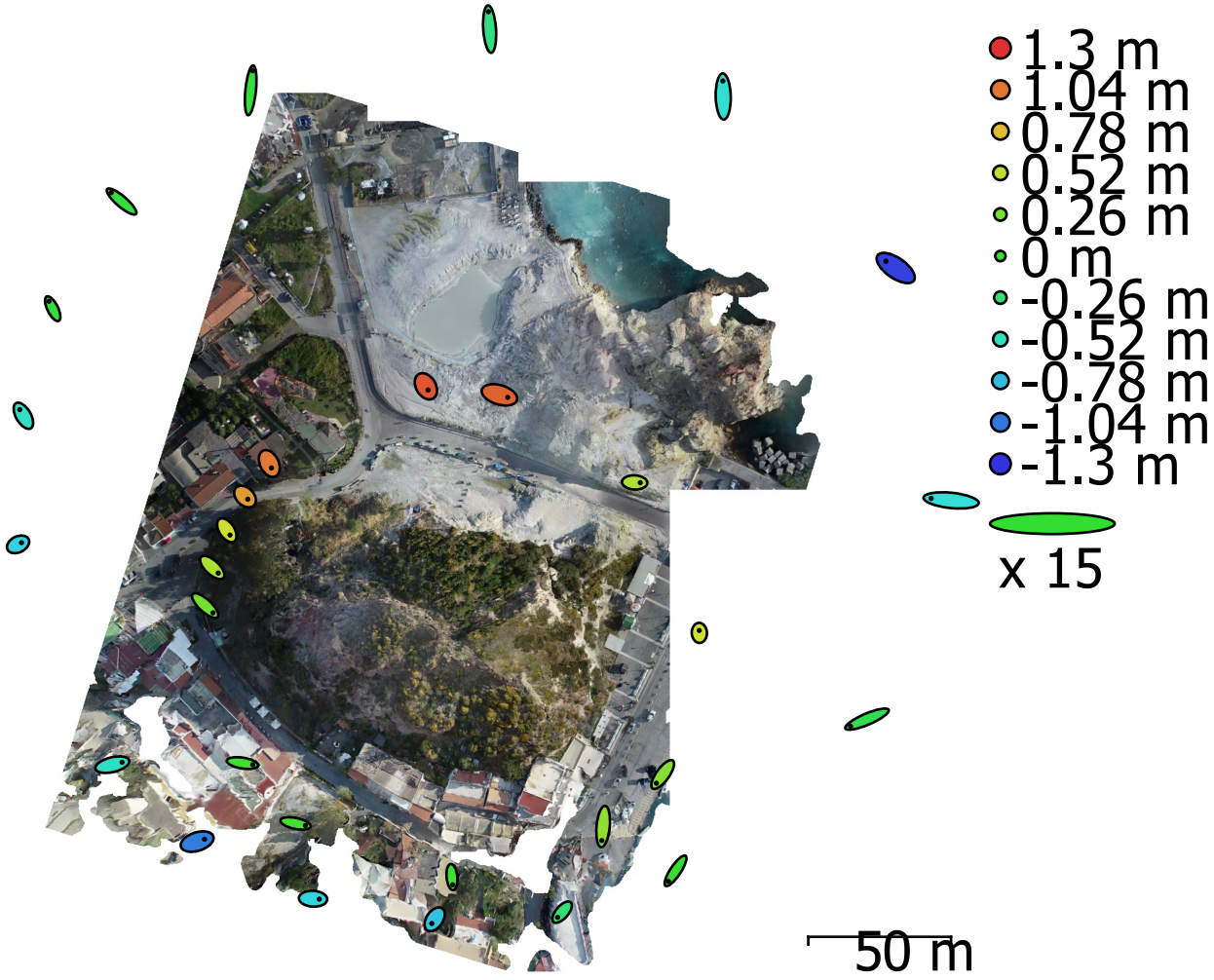


Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
34.6857	36.902	62.0584	50.6444	80.1005

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

Digital Elevation Model

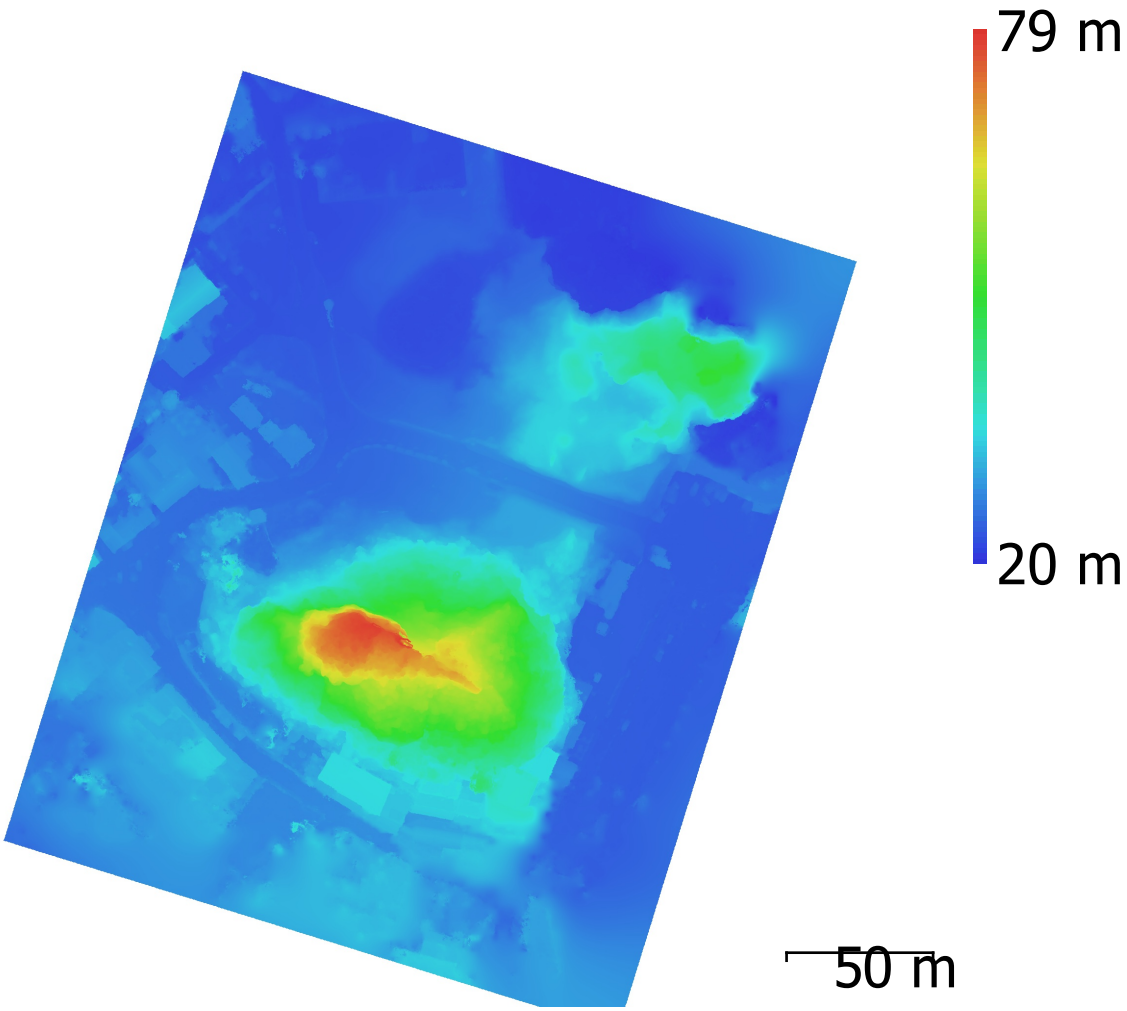


Fig. 4. Reconstructed digital elevation model.

Resolution:	5.72 cm/pix
Point density:	306 points/m²

Processing Parameters

General	
Cameras	30
Aligned cameras	30
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	25,213 of 26,329
RMS reprojection error	0.100293 (0.70713 pix)
Max reprojection error	0.319926 (22.9515 pix)
Mean key point size	5.26048 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	2.32789
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	3 minutes 29 seconds
Alignment time	11 seconds
Optimization parameters	
Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	0 seconds
Dense Point Cloud	
Points	17,314,350
Point colors	3 bands, uint8
Reconstruction parameters	
Quality	High
Depth filtering	Aggressive
Depth maps generation time	21 minutes 55 seconds
Dense cloud generation time	7 minutes 47 seconds
Model	
Faces	3,462,838
Vertices	1,736,468
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096 x 2, 4 bands, uint8
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense
Interpolation	Enabled
Quality	High
Depth filtering	Aggressive
Face count	3,462,839
Processing time	20 minutes 20 seconds
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096 x 4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	1 minutes 12 seconds
Blending time	8 minutes 29 seconds

DEM

Size	5,085 x 5,725
Coordinate system	WGS 84 (EPSG::4326)
Reconstruction parameters	
Source data	Dense cloud
Interpolation	Enabled
Processing time	22 seconds

Orthomosaic

Size	9,485 x 11,159
Coordinate system	WGS 84 (EPSG::4326)
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	Mesh
Enable hole filling	Yes
Processing time	7 minutes 1 seconds

Software

Version	1.4.3 build 6529
Platform	Windows 64