Quality Report

Important: Click on the different icons for:

Help to analyze the results in the Quality Report

Additional information about the sections

Click here for additional tips to analyze the Quality Report

Summary

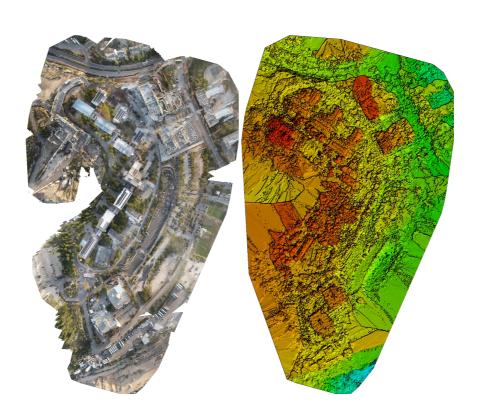| Project	uppercampusmapping
Processed	2022-03-10 22:41:27
Camera Model Name(s)	_0.0_1920x1088 (RGB)
Average Ground Sampling Distance (GSD)	undefined
Area Covered	undefined
Time for Initial Processing (without report)	15m:48s

Quality Check

Images	median of 10800 keypoints per image	✓
Dataset	306 out of 312 images calibrated (98%), 1 images disabled	✓
Camera Optimization	17.42% relative difference between initial and optimized internal camera parameters	⚠
Matching	median of 5086.59 matches per calibrated image	✓
Georeferencing	no, no 3D GCP	⚠

Preview

Calibration Details

Number of Calibrated Images	306 out of 313
Number of Geolocated Images	0 out of 313

Initial Image Positions

The preview is not generated for images without geolocation.

Computed Image/GCPs/Manual Tie Points Positions

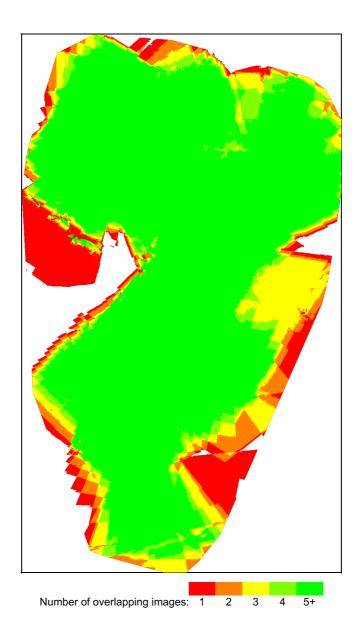The preview is not generated for images without geolocation.

Overlap

Number of overlapping images: 1   2   3   4   5+

Figure 4: Number of overlapping images computed for each pixel of the orthomosaic.
Red and yellow areas indicate low overlap for which poor results may be generated. Green areas indicate an overlap of over 5 images for every pixel. Good quality results will be generated as long as the number of keypoint matches is also sufficient for these areas (see Figure 5 for keypoint matches).

Bundle Block Adjustment Details

Number of 2D Keypoint Observations for Bundle Block Adjustment	1622352
Number of 3D Points for Bundle Block Adjustment	552429
Mean Reprojection Error [pixels]	0.239

Internal Camera Parameters

_0.0_1920x1088 (RGB). Sensor Dimensions: 36.000 [mm] x 20.400 [mm]

EXIF ID: _0.0_1920x1088

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	1600.000 [pixel] 30.000 [mm]	960.000 [pixel] 18.000 [mm]	544.000 [pixel] 10.200 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	1878.759 [pixel] 35.227 [mm]	959.999 [pixel] 18.000 [mm]	539.894 [pixel] 10.123 [mm]	-0.057	0.277	-0.373	0.006	0.001
Uncertainties (Sigma)	1.762 [pixel] 0.033 [mm]	1.444 [pixel] 0.027 [mm]	2.214 [pixel] 0.042 [mm]	0.004	0.023	0.046	0.000	0.000

The number of Automatic Tie Points (ATPs) per pixel averaged over all images of the camera model is color coded between black and white. White indicates that, in average, more than 16 ATPs are extracted at this pixel location. Black indicates that, in average, 0 ATP has been extracted at this pixel location. Click on the image to the see the average direction and magnitude of the reprojection error for each pixel. Note that the vectors are scaled for better visualization.

2D Keypoints Table

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	10800	5087
Min	9181	336
Max	13336	10241
Mean	10816	5302

3D Points from 2D Keypoint Matches

	Number of 3D Points Observed
In 2 Images	354621
In 3 Images	95471
In 4 Images	40374
In 5 Images	21267
In 6 Images	12460
In 7 Images	7902
In 8 Images	5190
In 9 Images	3637
In 10 Images	2665
In 11 Images	2031
In 12 Images	1539
In 13 Images	1171
In 14 Images	830
In 15 Images	619
In 16 Images	530
In 17 Images	442

In 18 Images	390
In 19 Images	329
In 20 Images	288
In 21 Images	240
In 22 Images	143
In 23 Images	49
In 24 Images	50
In 25 Images	33
In 26 Images	25
In 27 Images	38
In 28 Images	22
In 29 Images	18
In 30 Images	14
In 31 Images	8
In 32 Images	13
In 33 Images	7
In 34 Images	7
In 35 Images	3
In 38 Images	1
In 39 Images	1
In 40 Images	1

2D Keypoint Matches

Uncertainty ellipses 10x
magnified

Number of
matches

25 222 444 666 888 1111 1333 1555 1777 2000

⑦ Relative camera position and orientation uncertainties

	X [m]	Y [m]	Z [m]	Omega [degree]	Phi [degree]	Kappa [degree]
Mean	0.101	0.119	0.114	0.137	0.118	0.098
Sigma	0.043	0.056	0.055	0.048	0.051	0.039

Initial Processing Details

System Information

Hardware	CPU: Intel(R) Core(TM) i7-4870HQ CPU @ 2.50GHz RAM: 16GB GPU: no info (Driver: unknown)
Operating System	Darwin 21.1.0 x86_64

Coordinate Systems

Output Coordinate System	Arbitrary (m)

Processing Options

Detected Template	🗄 3D Maps
Keypoints Image Scale	Full, Image Scale: 1
Advanced: Matching Image Pairs	Aerial Grid or Corridor
Advanced: Matching Strategy	Use Geometrically Verified Matching: no
Advanced: Keypoint Extraction	Targeted Number of Keypoints: Automatic
Advanced: Calibration	Calibration Method: Standard Internal Parameters Optimization: All External Parameters Optimization: All Rematch: Auto, yes Bundle Adjustment: Classic

Point Cloud Densification details

Processing Options

Image Scale	multiscale, 1/2 (Half image size, Default)
Point Density	Optimal
Minimum Number of Matches	3
3D Textured Mesh Generation	yes
3D Textured Mesh Settings:	Resolution: Medium Resolution (default) Color Balancing: no
Advanced: 3D Textured Mesh Settings	Sample Density Divider: 1
Advanced: Matching Window Size	7x7 pixels
Advanced: Image Groups	group1
Advanced: Use Processing Area	yes
Advanced: Use Annotations	yes
Advanced: Limit Camera Depth Automatically	no

Time for Point Cloud Densification	10m:54s
Time for 3D Textured Mesh Generation	04m:47s

Results

Number of Generated Tiles	1
Number of 3D Densified Points	4105238
Average Density (per m^3)	44.11