

- !** **Important:** Click on the different icons for:
- ?** Help to analyze the results in the Quality Report
 - i** Additional information about the feature

💡 Click [here](#) for additional tips to analyze the Quality Report

Summary **i**

Project	bsu cedar gulch
Processed	2015-Jun-05 12:42:20
Camera Model Name	CanonPowerShotS110_5.2_4000x3000 (RGB)
Average Ground Sampling Distance (GSD)	2.73 cm / 1.07 in
Area Covered	2.8741 km ² / 287.413 ha / 1.1103 sq. mi. / 710.581 acres
Image Coordinate System	WGS84
Output Coordinate System	WGS84 / UTMzone 12N
Processing Type	rapid Aerial nadir
Feature Extraction Image Scale	1
Camera Model Parameter Optimization	optimize externals and all internals
Time for Initial Processing (without report)	55m:11s

Quality Check **i**

? Images	median of 4211 keypoints per image	✓
? Dataset	1311 out of 1313 images calibrated (99%), all images enabled	✓
? Camera Optimization	0.6% relative difference between initial and final focal length	✓
? Matching	median of 2111.86 matches per calibrated image	✓
? Georeferencing	no 3D GCP	⚠

? Preview **i**

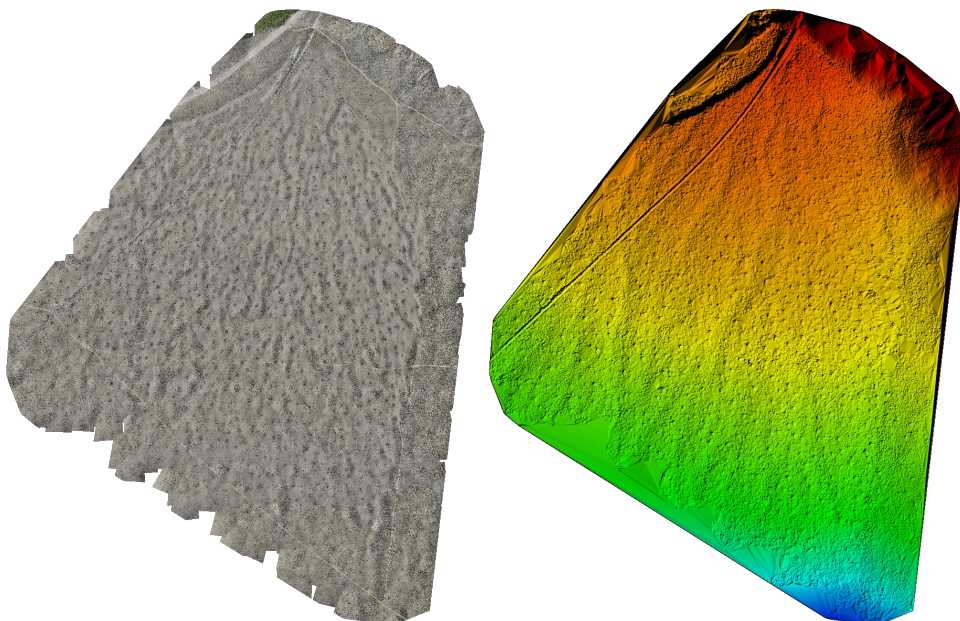


Figure 1: Orthomosaic and the corresponding sparse Digital Surface Model (DSM) before densification.

Calibration Details



Number of Calibrated Images	1311 out of 1313
Number of Geolocated Images	1313 out of 1313

? Initial Image Positions

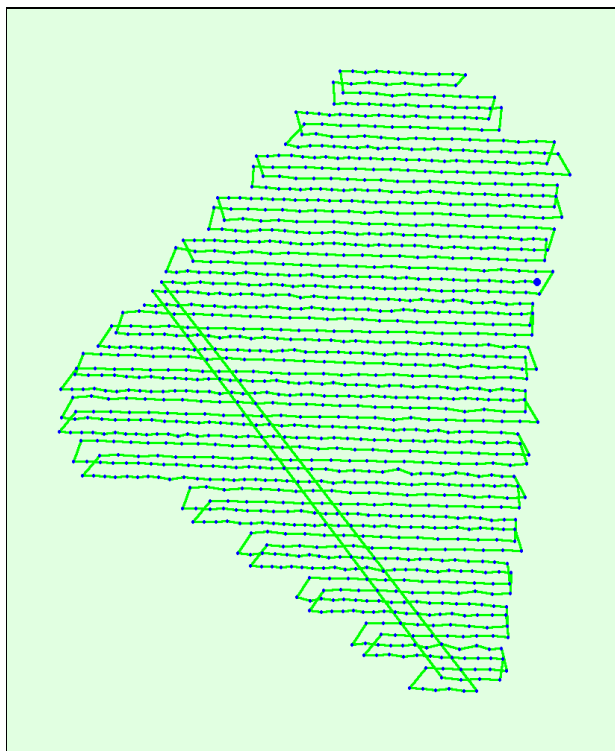


Figure 2: Top view of the initial image position. The green line follows the position of the images in time starting from the large blue dot.

? Computed Image/GCPs/Manual Tie Points Positions



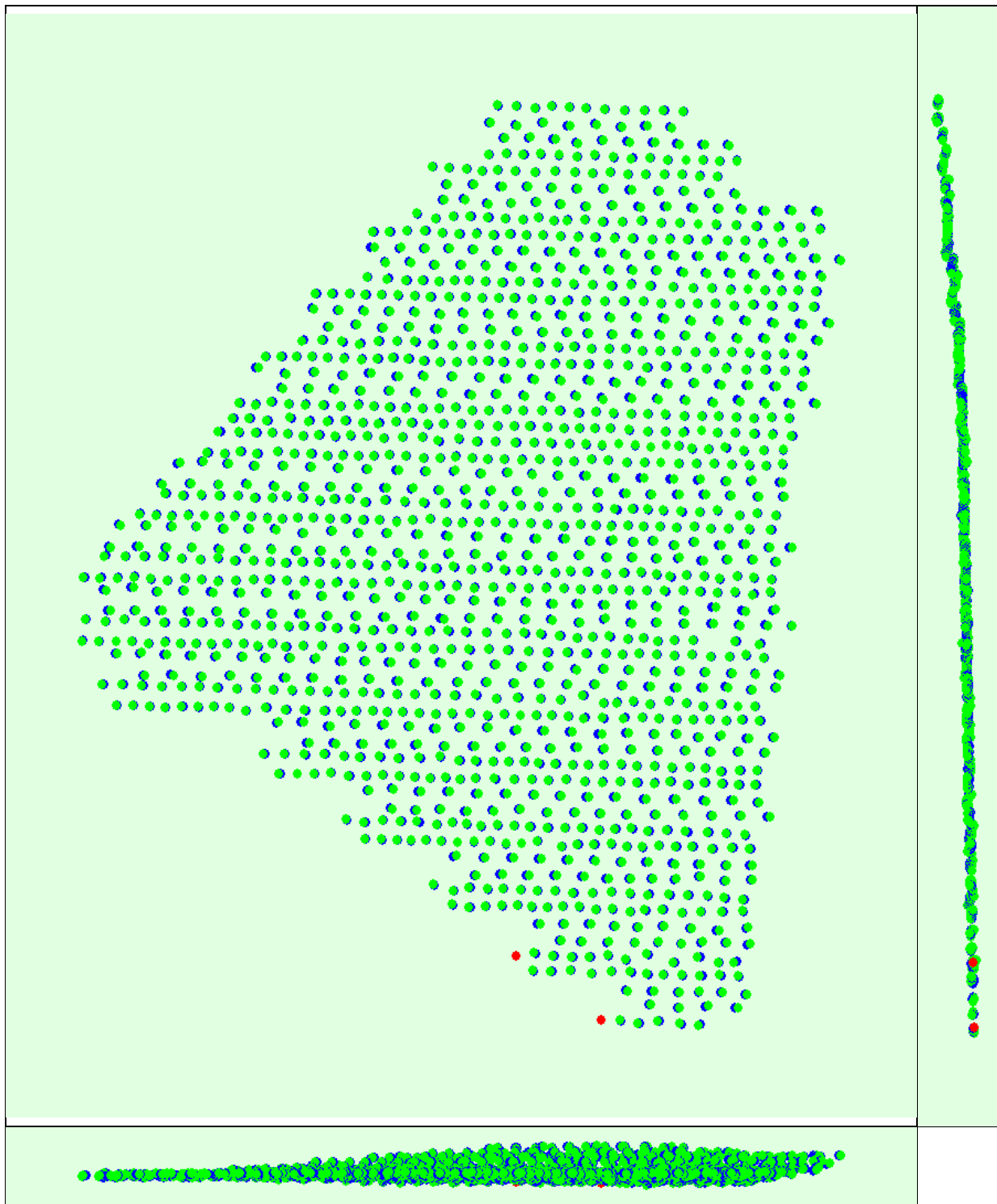


Figure 3: Offset between initial (blue dots) and computed (green dots) image positions as well as the offset between the GCPs initial positions (blue crosses) and their computed positions (green crosses) in the top-view (XY plane), front-view (XZ plane), and side-view (YZ plane). Red dots indicate disabled or uncalibrated images.

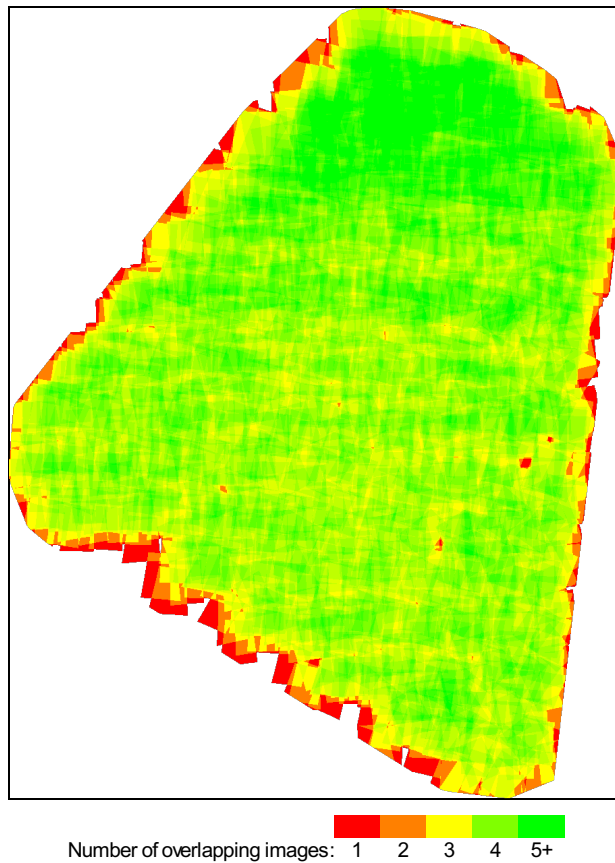


Figure 4: Number of overlapping images computed for each pixel of the orthomosaic. Red and yellow areas indicate low overlap for which poor results may be generated. Green areas indicate an overlap of over 5 images for every pixel. Good quality results will be generated as long as the number of keypoint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

Bundle Block Adjustment Details i

Number of 2D Keypoint Observations for Bundle Block Adjustment	2771644
Number of 3D Points for Bundle Block Adjustment	955771
Mean Reprojection Error [pixels]	0.107287

? Internal Camera Parameters

CanonPowerShotS110_5.2_4000x3000 (RGB). Sensor Dimensions: 7.44 [mm] x 5.58 [mm] i

EXIF ID: CanonPowerShotS110_5.2_4000x3000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	2860.478 [pixel] 5.320 [mm]	2047.508 [pixel] 3.808 [mm]	1494.393 [pixel] 2.780 [mm]	-0.040	-0.012	0.007	0.000	0.004
Optimized Values	2877.757 [pixel] 5.353 [mm]	1944.102 [pixel] 3.616 [mm]	1471.954 [pixel] 2.738 [mm]	-0.038	-0.010	0.006	-0.004	-0.004

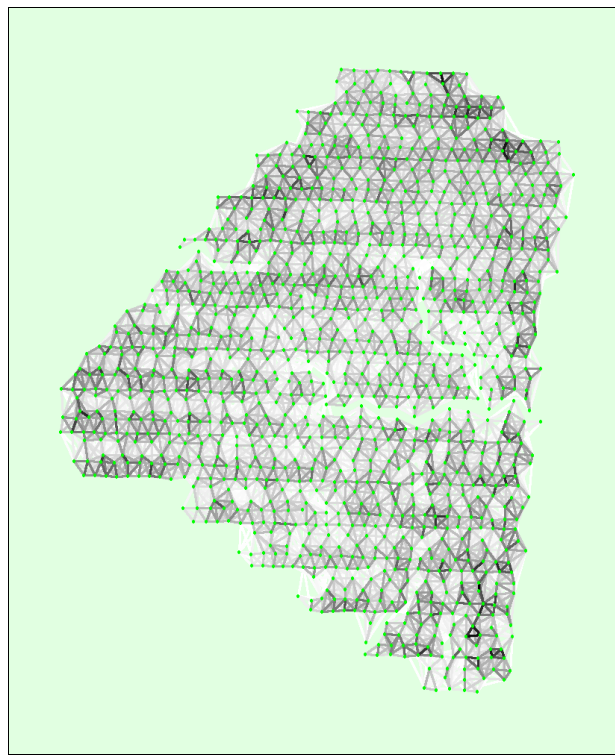
? 2D Keypoints Table i

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	4211	2112
Mn	2169	366
Max	7324	4190
Mean	4275	2114

? 3D Points from 2D Keypoint Matches i

	Number of 3D Points Observed
In 2 Images	497796
In 3 Images	228700
In 4 Images	121444
In 5 Images	63785
In 6 Images	29079
In 7 Images	10507
In 8 Images	3317
In 9 Images	864
In 10 Images	200
In 11 Images	51
In 12 Images	15
In 13 Images	7
In 14 Images	6

3D Points from 2D Keypoint Matches



Number of matches

25 179 359 538 718 897 1077 1256 1436 1616

Figure 5: Top view of the image computed positions with a link between matching images. The darkness of the links indicates the number of matched 2D keypoints between the images. Bright links indicate weak links and require manual tie points or more images.

Geolocation Details



Absolute Geolocation Variance



0 out of 1311 geolocated and calibrated images have been labeled as inaccurate.

Mn Error [m]	Max Error [m]	Geolocation Error X[%]	Geolocation Error Y[%]	Geolocation Error Z[%]
-	-4.19	35.01	0.00	0.00
-4.19	-3.35	2.36	0.00	0.08
-3.35	-2.51	0.15	0.15	0.61
-2.51	-1.67	0.00	1.83	5.26
-1.67	-0.84	0.00	12.05	13.58
-0.84	0.00	0.00	36.08	30.89
0.00	0.84	0.00	32.80	32.72

0.84	1.67	1.60	13.04	14.72
1.67	2.51	15.87	3.05	2.14
2.51	3.35	26.32	0.84	0.00
3.35	4.19	13.65	0.15	0.00
4.19	-	5.03	0.00	0.00
Mean		-0.134131	0.053970	-0.068712
Sigma		4.157021	0.878158	0.941078
RMS Error		4.159184	0.879815	0.943583

Min Error and Max Error represent geolocation error intervals between -1.5 and 1.5 times the maximum accuracy of all the images. Columns X, Y, Z show the percentage of images with geolocation errors within the predefined error intervals. The geolocation error is the difference between the initial and computed image positions. Note that the image geolocation errors do not correspond to the accuracy of the observed 3D points.

Geotag Orientational Variance	RMS [degree]
Omega	9.813624
Phi	5.634043
Kappa	8.060347

Geolocation RMS error of the orientation angles given by the difference between the initial and computed image orientation angles.

Relative Geolocation Variance



Relative Accuracy/Sigma	Images X [%]	Images Y [%]	Images Z [%]
1 Sigma	2.21	93.97	97.64
2 Sigma	40.88	100.00	100.00
3 Sigma	77.57	100.00	100.00
Mean Accuracy of Geolocations	1.666404	1.666404	2.069555
Sigma Accuracy of Geolocations	0.175340	0.175340	0.235004

Images X, Y, Z represent the percentage of images with a relative geolocation error in X, Y, Z smaller than a multiple of Sigma.