ArcGIS® Drone2Map™ Advanced

Project Summary

Project Name	TannerPark_RTK
Processed On	7/25/23, 10:22 AM
Camera Model	XL705
Images	47 out of 47 images calibrated
Project Area	0.011 km2 / 1.114 ha / 0.004 sq. mi. / 2.753 acres
Ground Resolution	0.010 (m)
Processing Time	01h:02m:58s

Adjust Images

Summary

Number of Tie Points	273,604
Number of Solution Points	100,919
RMSE of Reprojection Error / Sigma Naught (Pixel)	0.485 / 0.726
Initial Processing Time	50m:30s

Processing Options

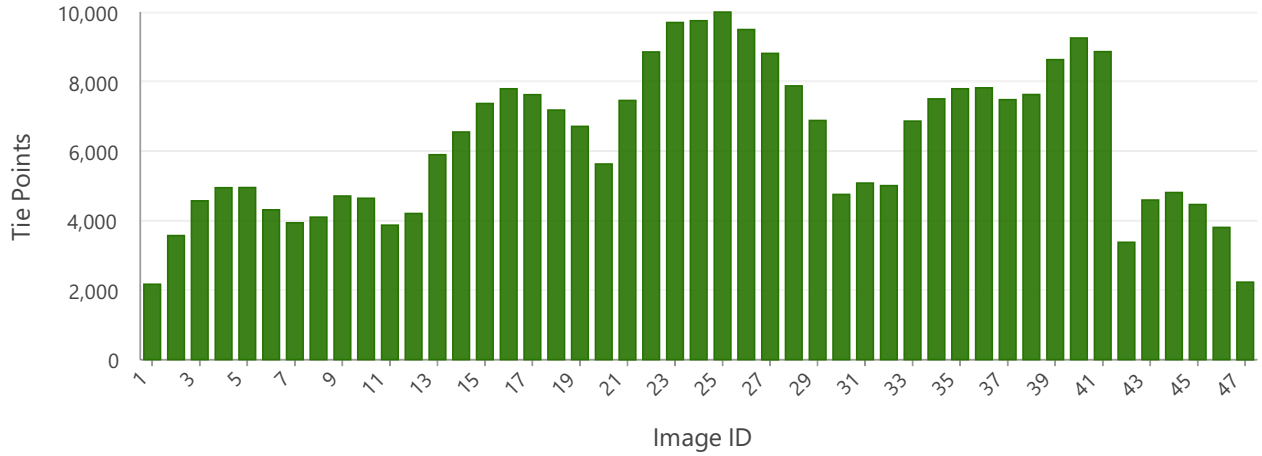
Initial Image Scale	1/8 (Eighth image size)
Refine Adjustment Scale	1 (Original image size)
Matching Neighborhood	Small (Optimized)

Internal Camera Parameters

Autel Robotics XL705 9.7mm 5472x3648
HN7923051121

Focal Length	Principal Point X	Principal Point Y	K1	K2	K3	P1	P2
9.744	-0.088	0.068	6.424e-004	-2.223e-005	2.640e-007	-2.195e-004	1.258e-004

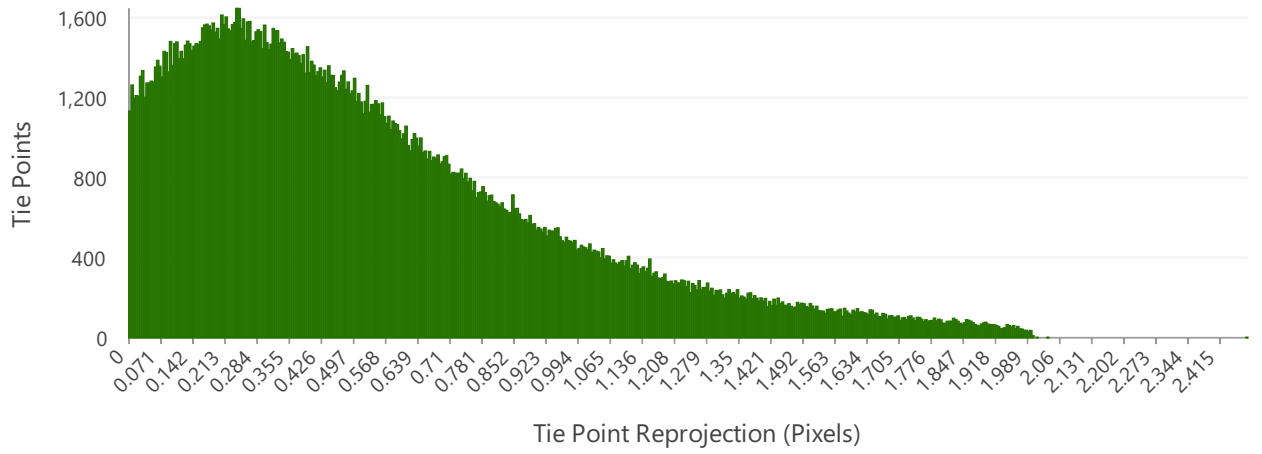
Tie Points Per Image



Min	2,000
Max	9,969
Median	5,402
Mean	5,821
Total	273,604

The total number of tie points that were detected in each image during the Adjust Images step. Images with low tie point counts may indicate problematic areas, such as areas with poor image quality, insufficient image overlap, or homogenous image textures.

Tie Point Reprojection Error



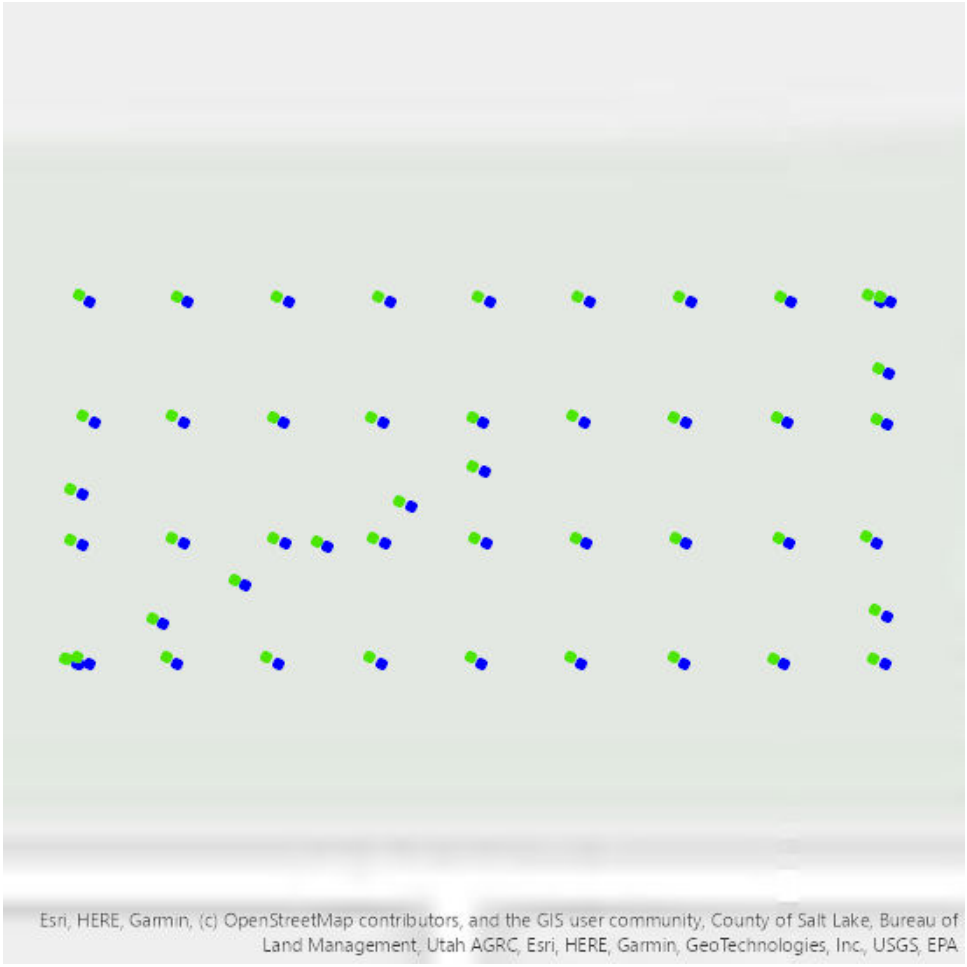
Min	0.000
Max	2.477
Median	0.452
Mean	0.547
RMSE	0.485

The distribution of the tie point reprojection errors across all adjusted images. The root mean square error (RMSE) of the reprojection error can be used to assess the overall quality of the Adjust Images processing step. Generally, an RMSE value closer to zero indicates a higher quality adjustment.

Standard Deviation of Exterior Orientation

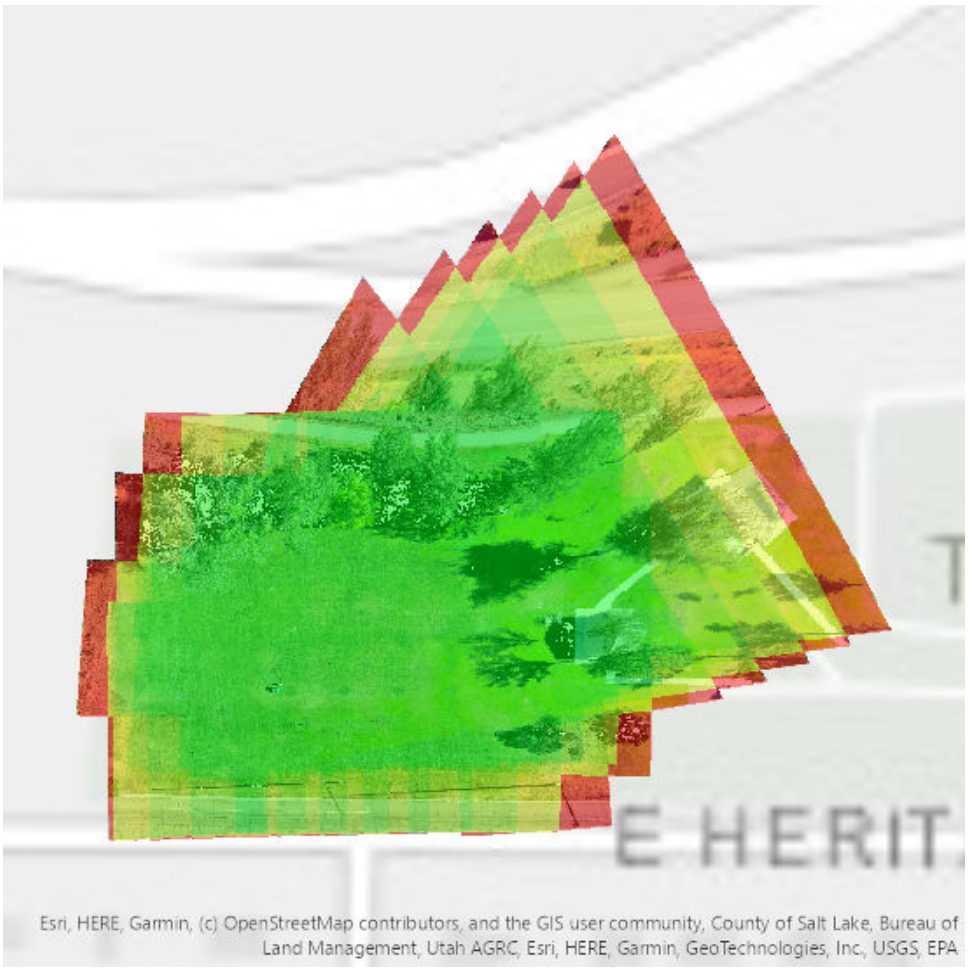
	X (m)	Y (m)	Z (m)	Omega (degrees)	Phi (degrees)	Kappa (degrees)
Min	0.000	0.000	0.000	0.001	0.001	0.001
Max	0.000	0.000	0.000	0.001	0.002	0.002

Adjusted Image Positions



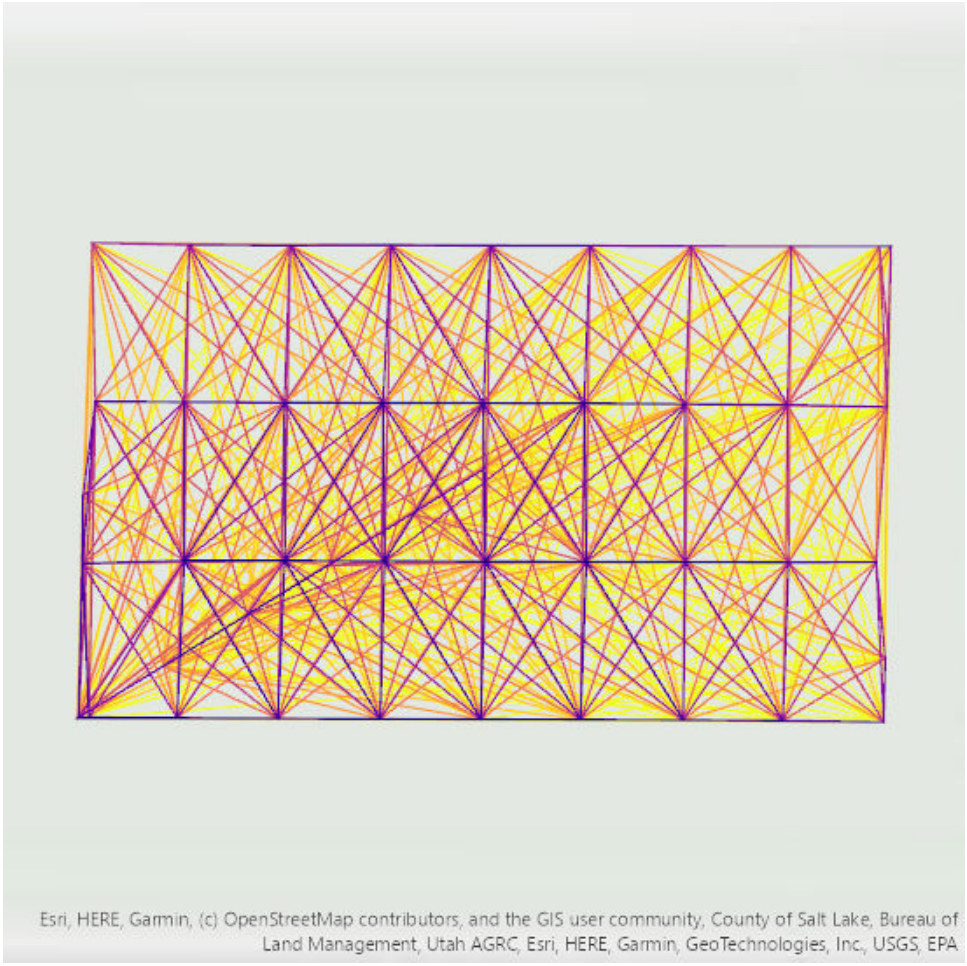
The initial image locations (blue points) and their adjusted positions (green points) after processing.

Image Overlap



The amount of overlap between image projections after processing. Areas with high overlap produce the most accurate results. Avoid placing control points in areas of low overlap, as this could affect their accuracy.

Cross Matches



The adjusted image positions with links showing the number of tie points between matched images after the Adjust Images processing step. Darker links indicate a higher number of tie points between the images. Images with a greater number of links generally produce more accurate results.

Solution Points

2 Images	64,826
3 Images	19,648
4 Images	7,781
5 Images	3,816
6 Images	2,156
7 Images	1,212
8 Images	678
9 Images	401
10 Images	209
11 Images	115
12 Images	41
13 Images	15
14 Images	11
15 Images	7
16 Images	1
17 Images	2

The frequency of solution points per image observations. Solution points with a higher number of image observations generally produce more accurate results.

Dense Matching

Summary

Point Cloud Density	Medium
Number of Tiles	39
Processing Time	07m:40s

Project Settings

System Information

Hardware	CPU: Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz RAM: 32GB GPU: NVIDIA GeForce GTX 1650 Ti (Driver: 31.0.15.3667)
Operating System	Microsoft Windows 10 Pro, 64-bit
ArcGIS Drone2Map Version	2023.1.1

Coordinate Information

Image Coordinate System	GCS_WGS_1984/VCS:EGM96 Geoid
Project Coordinate System	NAD_1983_2011_StatePlane_Utah_Central_FIPS_4302/VCS:NAVD 1988

Project Resolution

Project Resolution	Automatic 4 x GSD (0.01 m)

Pre-Processing

Project Area	No
Waterbody Mask	No
Correction Feature	No

2D Product

Summary

Processing time for DSM	30s
Processing time for True Ortho	01m:30s

Processing Options

Create True Ortho	Yes
Create Digital Surface Model	Yes
Create Digital Terrain Model	No
Color Balance	Yes
Enhance True Ortho	Yes
Merge Tiles	Yes

3D Product

Processing Options

Create Point Cloud	No
Merge LAS Tiles	No
Create DSM Textured Mesh	No
Create 3D Textured Mesh	No
Enhance Textured Mesh	No