

## Project Summary

Project Name	Drone2Map Training
Processed On	7/03/2024 6:00 pm
Camera Model	FC6510
Images	54 out of 54 images calibrated
Project Area	0.058 km <sup>2</sup> / 5.834 ha / 0.023 sq. mi. / 14.415 acres
Ground Resolution	0.040 (m)
Processing Time	21h:04m:46s

## Adjust Images

### Summary

Number of Tie Points	121,458
Number of Solution Points	49,909
RMSE of Reprojection Error / Sigma Naught (Pixel)	0.352 / 0.570
Ground Control Points RMSE (m)	0.003, 0.004, 0.004
Initial Processing Time	01h:08m:51s

### Processing Options

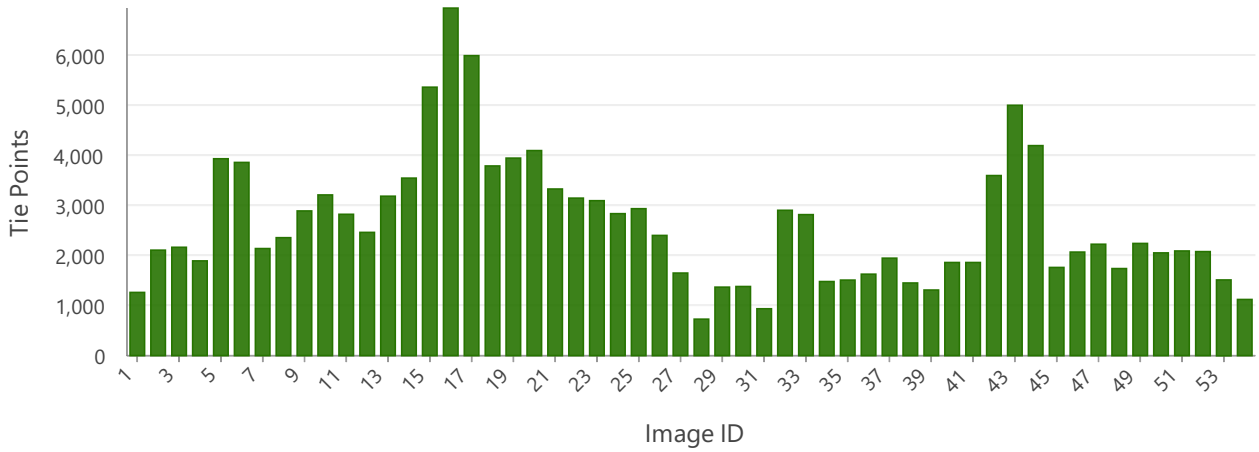
Initial Image Scale	1/8 (Eighth image size)
Refine Adjustment Scale	1 (Original image size)
Matching Neighborhood	Small (Optimized)

### Internal Camera Parameters

DJI FC6510 8.9mm 5472x3648  
f09519ed5d8ecfd8d49daafbbd22a824

Focal Length	Principal Point X	Principal Point Y	K1	K2	K3	P1	P2
8.851	-0.021	-0.018	1.180e-004	-3.744e-006	4.657e-008	5.284e-005	4.854e-005

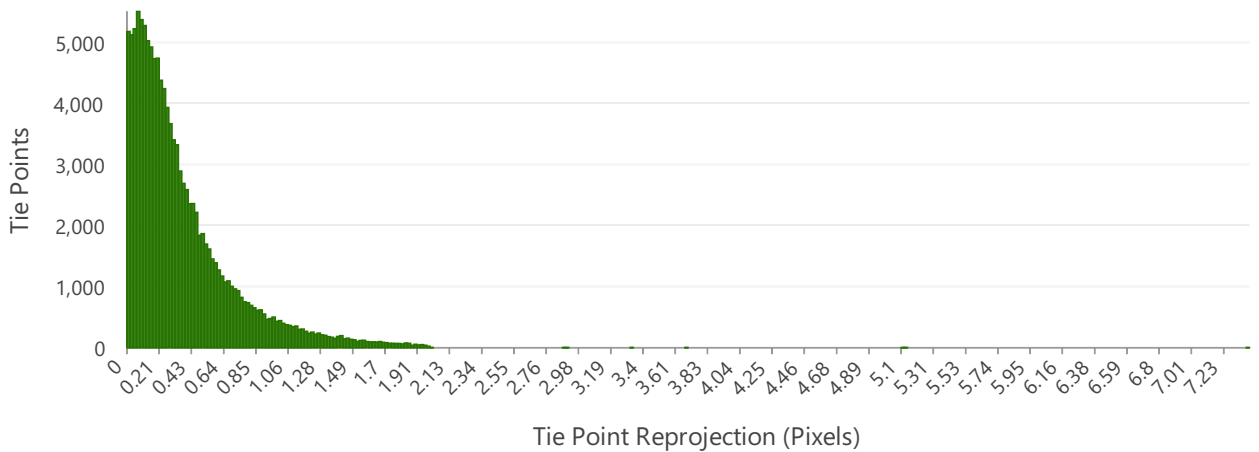
## Tie Points Per Image



Min	551
Max	6,168
Median	1,986
Mean	2,249
Total	121,458

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



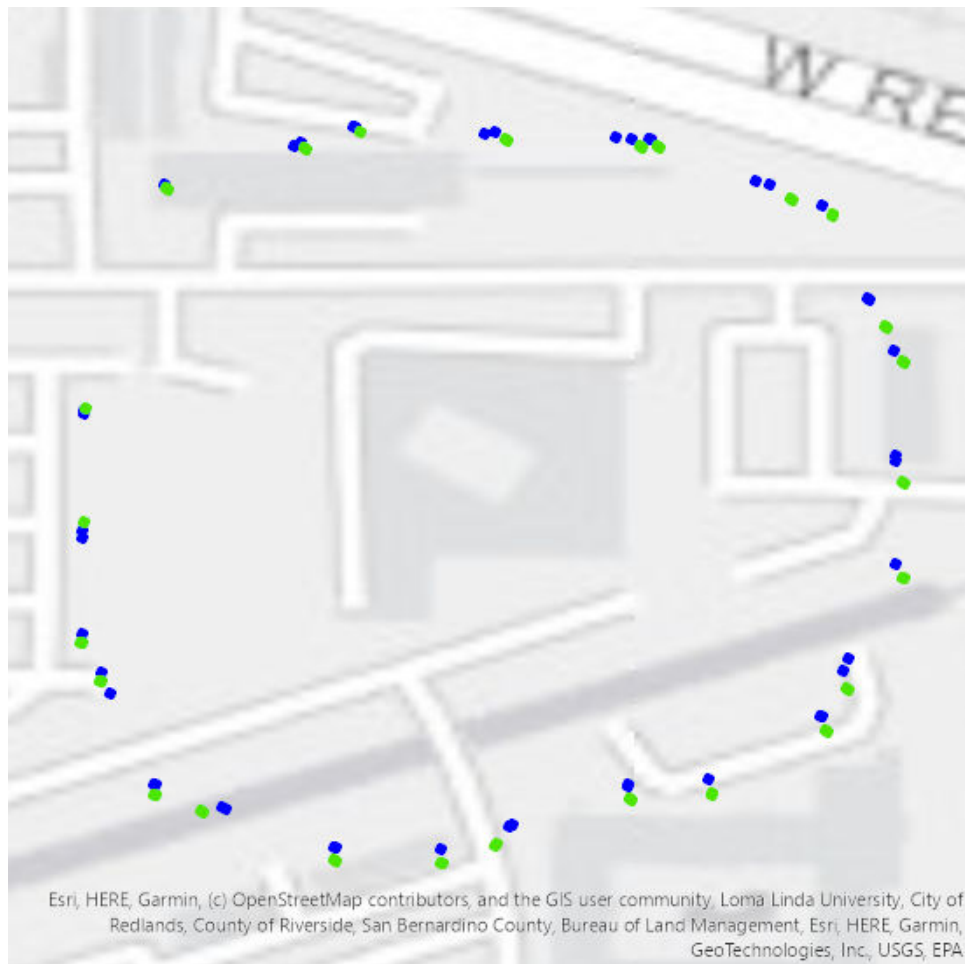
Min	0.000
Max	7.397
Median	0.261
Mean	0.364
RMSE	0.352

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

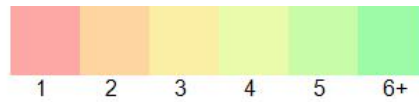
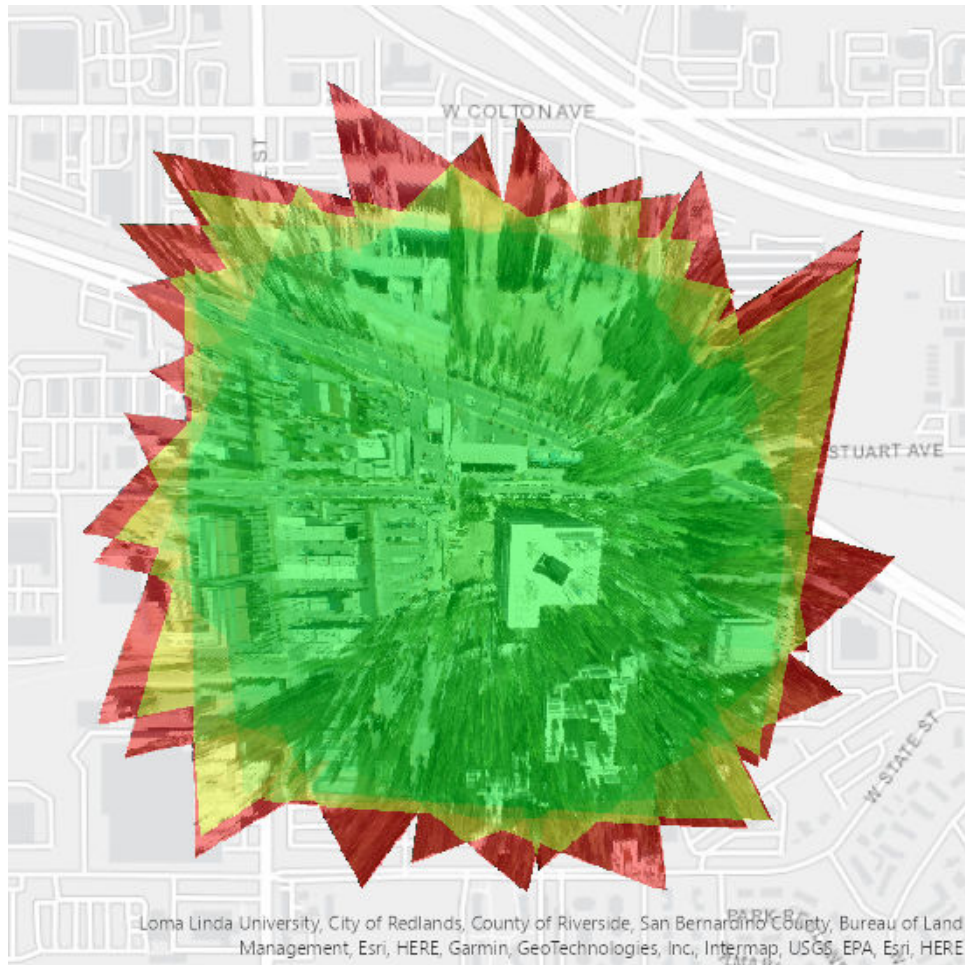
	X (m)	Y (m)	Z (m)	Omega (degrees)	Phi (degrees)	Kappa (degrees)
Min	0.023	0.021	0.037	0.015	0.022	0.021
Max	0.043	0.053	0.072	0.031	0.051	0.045

## Adjusted Image Positions



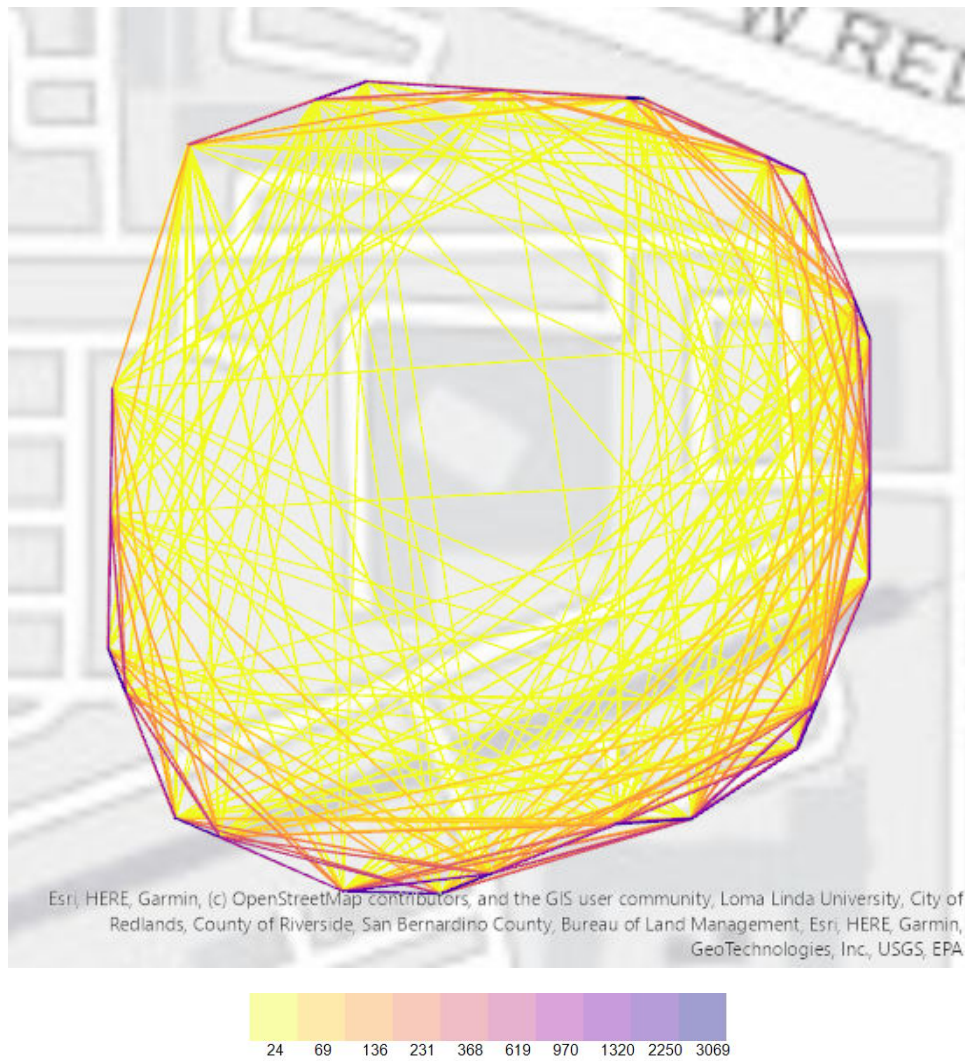
The initial image locations (blue points) and their adjusted positions (green points) after processing.

## 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	37,897
3 Images	7,271
4 Images	2,578
5 Images	1,000
6 Images	523
7 Images	274
8 Images	150
9 Images	78
10 Images	54
11 Images	36
12 Images	21
13 Images	13
14 Images	1
15 Images	6
16 Images	3
17 Images	1
18 Images	2
19 Images	1

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

**Ground Control Points**

	<b>dX (m)</b>	<b>dY (m)</b>	<b>dZ (m)</b>	<b>Projection Error (pixels)</b>	<b>Status</b>
From Map 0	-0.035	0.182	-0.139	3.779	3/6
From Map 1	-0.047	-0.107	0.099	5.408	3/4
From Map 2	0.081	0.055	0.089	1.933	2/6
<b>RMSE</b>	0.003	0.004	0.004		
<b>Min</b>	-0.047	-0.107	-0.139		
<b>Max</b>	0.081	0.182	0.099		
<b>Median</b>	-0.035	0.055	0.089		
<b>Mean</b>	-0.000	0.043	0.017		

### Summary

Point Cloud Density	High
Number of Tiles	213
Processing Time	27m:51s



## Project Settings

### System Information

Hardware	CPU: 11th Gen Intel(R) Core(TM) i7-1195G7 @ 2.90GHz RAM: 16GB
Operating System	Microsoft Windows 11 Home, 64-bit
ArcGIS Drone2Map Version	2023.2.0

### Coordinate Information

Image Coordinate System	GCS_WGS_1984/VCS:EGM96 Geoid
Project Coordinate System	WGS_1984_UTM_Zone_11N/VCS:EGM96 Geoid
Control Points Coordinate System	WGS_1984_UTM_Zone_11N/VCS:EGM96 Geoid

### Project Resolution

Project Resolution	Automatic 1 x GSD (0.04 m)
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### Pre-Processing

Project Area	No
Waterbody Mask	No
Correction Feature	No

## 2D Product

### Processing Options

Create True Ortho	Yes
Create Digital Surface Model	Yes
Create Digital Terrain Model	Yes
Color Balance	Yes
Enhance True Ortho	Yes
Merge Tiles	Yes

## 3D Product

### Summary

Processing Time for 3D Mesh Generation	11h:22m:26s
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### Processing Options

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