

# ArcGIS<sup>®</sup> Drone2Map™ Advanced



## Project Summary

Project Name	CornTest11-15-23	
Processed On	11/21/2023 2:28 PM	
Camera Model	M3M /*MS[Green Red RedEdge NIR]*/	
Images	271 out of 271 images calibrated	
Project Area	2.386 km2 / 238.629 ha / 0.921 sq. mi. / 589.644 acres	
Ground Resolution	0.107 (US ft)	
Processing Time	01h:15m:35s	

## **Adjust Images**

#### **Summary**

Number of Tie Points	1,424,396
Number of Solution Points	382,716
RMSE of Reprojection Error / Sigma Naught (Pixel)	0.302 / 0.391
Initial Processing Time	03h:09m:44s

## **Processing Options**

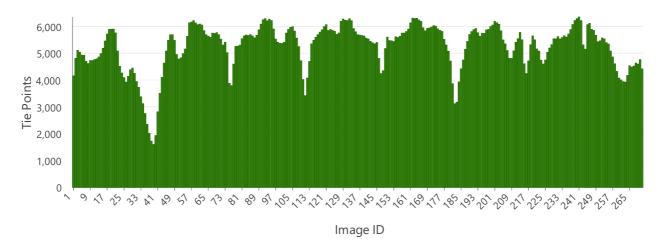
Initial Image Scale	1 (Original image size)	
Refine Adjustment Scale	1 (Original image size)	
Matching Neighborhood	Small (Optimized)	

## **Internal Camera Parameters**

DJI M3M /\*MS[Green|Red|RedEdge|NIR]\*/ 4.3mm 2592x1944 1581F5FKD235A00D6DZ6

Focal Length	Principal Point X	Principal Point Y	K1	K2	K3	P1	P2
4.340	0.066	0.001	-1.574e-004	3.217e-005	-3.791e-006	3.467e-004	-3.324e-004

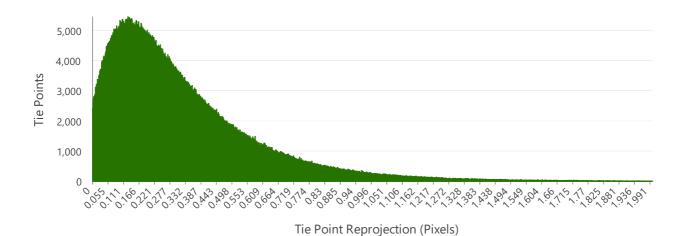
#### **Tie Points Per Image**



Min	1,595
Max	6,350
Median	5,526
Mean	5,256
Total	1,424,396

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**



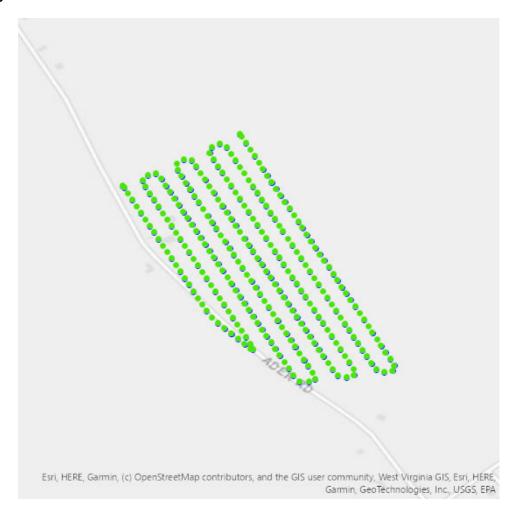
Min	0.000
Max	2.000
Median	0.255
Mean	0.328
RMSE	0.302

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 (US ft)	Y (US ft)	Z (US ft)	Omega (degrees)	Phi (degrees)	Kappa (degrees)
Min	0.000	0.000	0.000	0.000	0.000	0.000
Max	0.000	0.000	0.000	0.001	0.001	0.002

## **Adjusted Image Positions**



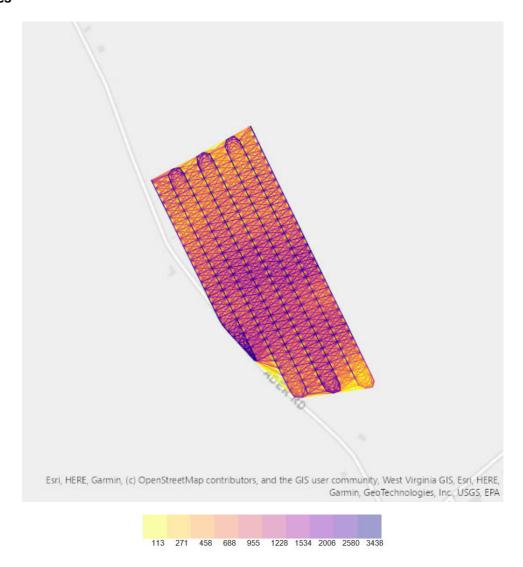
The initial image locations (blue points) and their adjusted positions (green points) after processing.

## **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	174,854
3 Images	76,069
4 Images	42,708
5 Images	26,348
6 Images	16,567
7 Images	12,255
8 Images	9,027
9 Images	6,742
10 Images	5,032
11 Images	3,595
12 Images	2,607
13 Images	2,039
14 Images	1,509
15 Images	1,039
16 Images	705
17 Images	522
18 Images	375
19 Images	255
20 Images	222
21 Images	155
22 Images	77
23 Images	13
24 Images	1

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

# **Project Settings**

## **System Information**

Hardware	CPU: Intel(R) Xeon(R) Gold 5218R CPU @ 2.10GHz RAM: 96GB GPU: NVIDIA RTX A5000 (Driver: 31.0.15.3770)
Operating System	Microsoft Windows 11 Pro for Workstations, 64-bit
ArcGIS Drone2Map Version	2023.2.0

#### **Coordinate Information**

Image Coordinate System	GCS_WGS_1984/VCS:EGM96 Geoid
Project Coordinate System	NAD_1983_2011_StatePlane_Pennsylvania_South_FIPS_3702_Ft_US/VCS:Unknown height system (US survey feet)

# **Project Resolution**

Project Resolution	Automatic 1 x GSD (0.107 US ft)	
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# 2D Product

# Summary

Processing time for Orthomosaic	03m:10s
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# **Processing Options**

Create Orthomosaic	Yes
Create Digital Surface Model	No
Create Digital Terrain Model	No
Color Balance	No

# 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