ArcGIS® Drone2Map™ Advanced

Project Summary

Project Name	Barangay 1 (team 1)
Processed On	09/07/2024 11:38 pm
Camera Model	FC4382
Images	141 out of 141 images calibrated
Project Area	0.013 km2 / 1.301 ha / 0.005 sq. mi. / 3.216 acres
Ground Resolution	0.013 (m)
Processing Time	36m:22s

Adjust Images

Summary

Number of Tie Points	1,553,975
Number of Solution Points	265,555
RMSE of Reprojection Error / Sigma Naught (Pixel)	0.342 / 0.396
Ground Control Points RMSE (m)	0.805, 1.036, 2.381
Initial Processing Time	25m:34s

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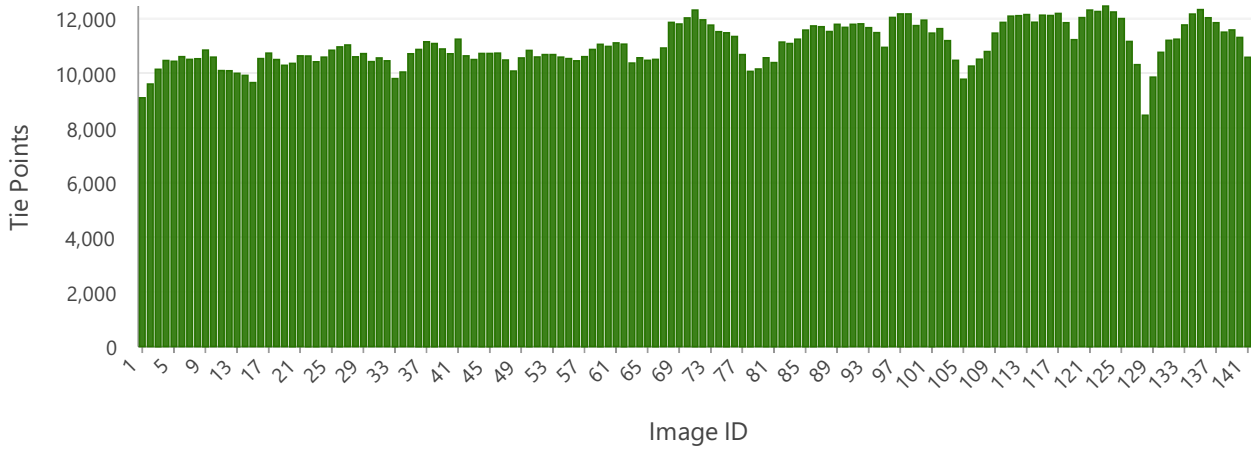
Initial Image Scale	1/8 (Eighth image size)
Refine Adjustment Scale	1 (Original image size)
Matching Neighborhood	Small (Optimized)

Internal Camera Parameters

DJI FC4382 19.4mm 4032x3024
5ZAFLBC12A00EB

Focal Length	Principal Point X	Principal Point Y	K1	K2	K3	P1	P2
19.409	0.039	-0.055	-5.822e-004	5.073e-006	8.983e-008	4.439e-005	4.351e-005

Tie Points Per Image

Min	8,458
Max	12,453
Median	10,868
Mean	11,021
Total	1,553,975

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
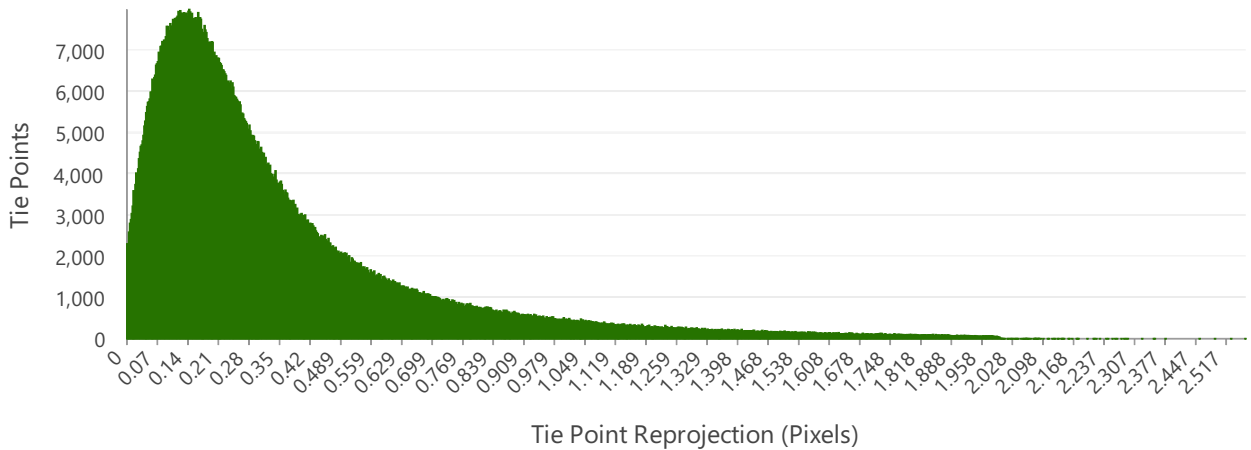
Min	0.000
Max	7.794
Median	0.244
Mean	0.351
RMSE	0.342

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.
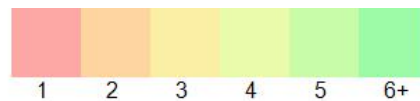
Standard Deviation of Exterior Orientation

	X (m)	Y (m)	Z (m)	Omega (degrees)	Phi (degrees)	Kappa (degrees)
Min	0.004	0.004	0.004	0.016	0.014	0.009
Max	0.007	0.007	0.009	0.020	0.020	0.010

Adjusted Image Positions

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

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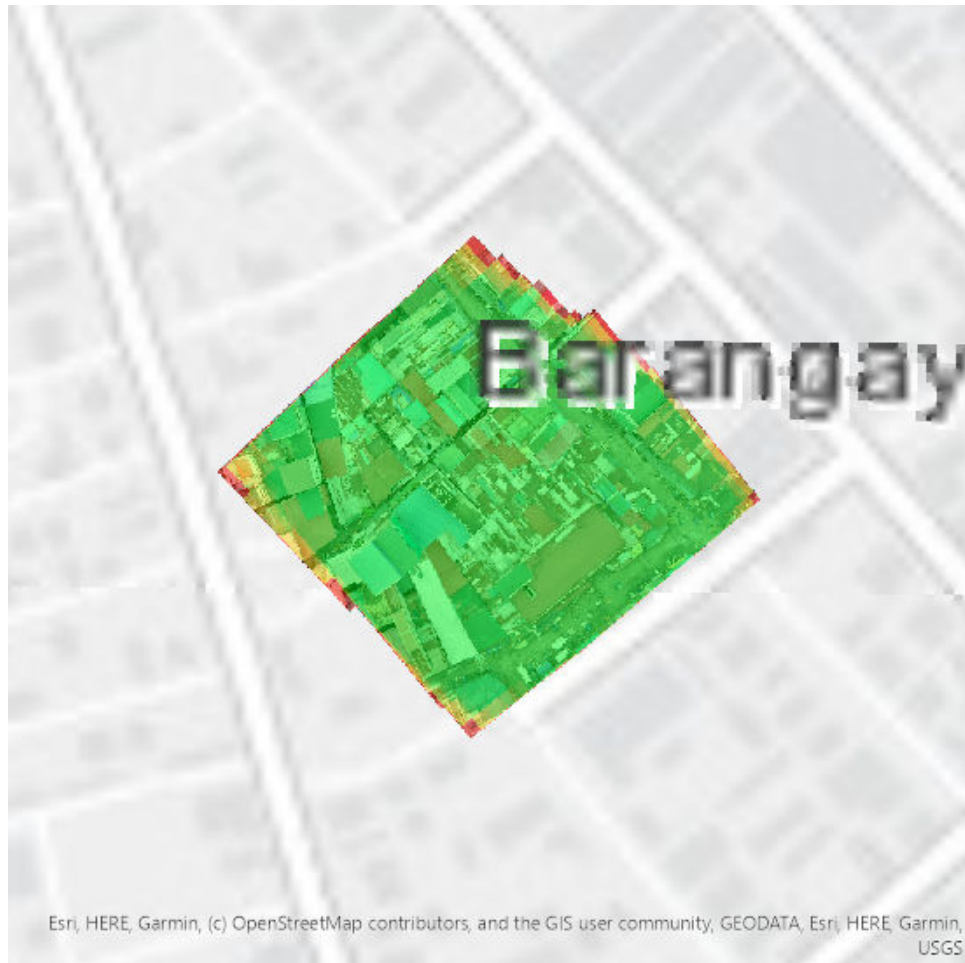
The amount of overlap between image projections after processing. Areas with high overlap produce the most accurate results. Avoid placing control points in areas of low overlap, as this could affect their accuracy.
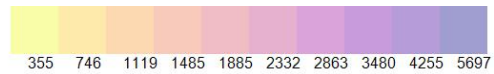
Cross Matches

355 746 1119 1485 1885 2332 2863 3480 4255 5697
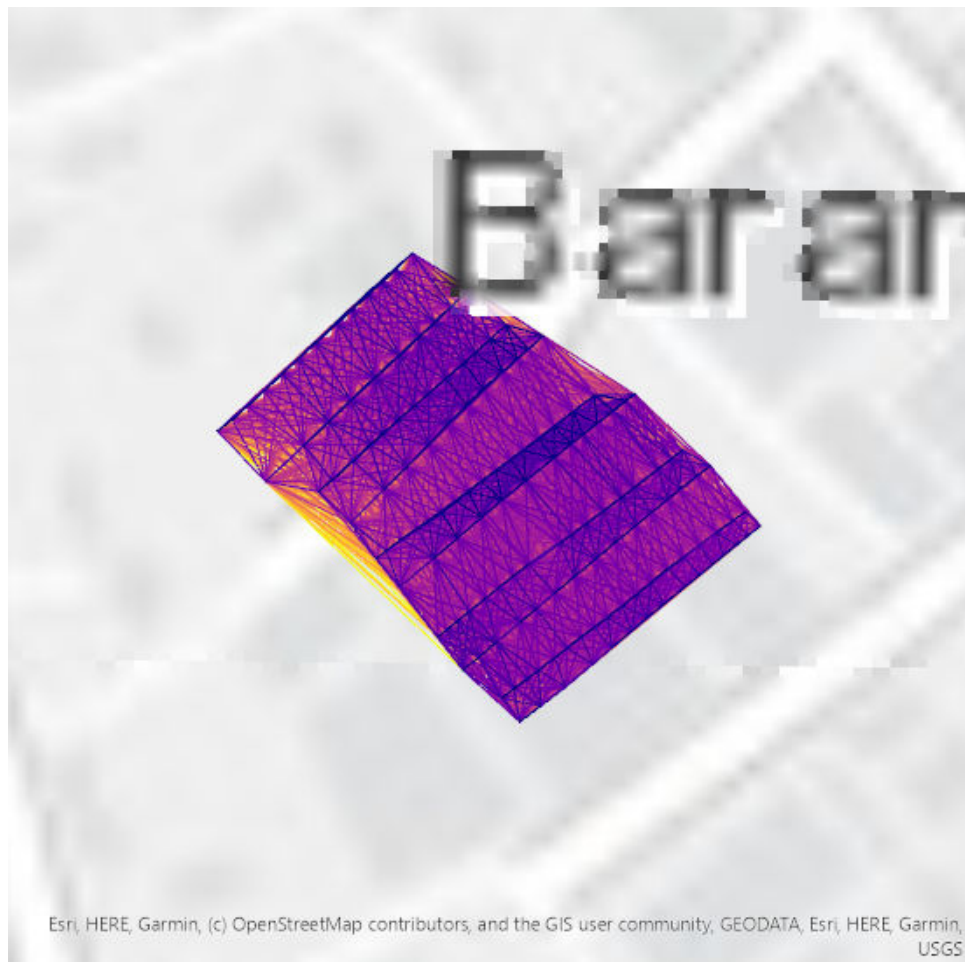
The adjusted image positions with links showing the number of tie points between matched images after the Adjust Images processing step. Darker links indicate a higher number of tie points between the images. Images with a greater number of links generally produce more accurate results.

Solution Points

2 Images	120,175
3 Images	44,669
4 Images	22,840
5 Images	14,241
6 Images	9,817
7 Images	7,201
8 Images	5,616
9 Images	4,455
10 Images	3,842
11 Images	3,110
12 Images	2,770
13 Images	2,344
14 Images	2,057
15 Images	1,774
16 Images	1,604
17 Images	1,403
18 Images	1,263
19 Images	1,143
20 Images	1,089
21 Images	949
22 Images	850
23 Images	809
24 Images	758
25 Images	683
26 Images	621
27 Images	574
28 Images	574
29 Images	513
30 Images	500
31 Images	445
32 Images	399
33 Images	365
34 Images	325
35 Images	396

36 Images	310
37 Images	243
38 Images	261
39 Images	241
40 Images	244
41 Images	193
42 Images	244
43 Images	175
44 Images	203
45 Images	188
46 Images	162
47 Images	156
48 Images	159
49 Images	145
50 Images	136
51 Images	120
52 Images	126
53 Images	130
54 Images	102
55 Images	98
56 Images	98
57 Images	82
58 Images	81
59 Images	89
60 Images	83
61 Images	79
62 Images	66
63 Images	73
64 Images	71
65 Images	65
66 Images	60
67 Images	45
68 Images	42
69 Images	50
70 Images	47

71 Images	45
72 Images	44
73 Images	51
74 Images	32
75 Images	36
76 Images	24
77 Images	37
78 Images	33
79 Images	33
80 Images	31
81 Images	22
82 Images	31
83 Images	31
84 Images	20
85 Images	17
86 Images	15
87 Images	18
88 Images	22
89 Images	22
90 Images	21
91 Images	22
92 Images	15
93 Images	15
94 Images	5
95 Images	6
96 Images	4
97 Images	9
98 Images	10
99 Images	11
100 Images	6
101 Images	4
102 Images	5
103 Images	6
104 Images	5
105 Images	2

106 Images	3
107 Images	0
108 Images	0
109 Images	0
110 Images	1

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

Geolocation Details

Ground Control Points

	dX (m)	dY (m)	dZ (m)	Projection Error (pixels)	Status
From Map 0	-0.153	0.312	-0.003	0.969	7/7
From Map 1	-0.661	-0.270	0.613	1.725	7/7
From Map 2	0.365	-0.979	-3.663	1.720	7/7
From Map 3	-0.510	0.849	0.651	1.270	7/7
From Map 4	-1.064	0.517	0.642	1.573	6/6
From Map 5	0.002	-0.048	1.174	1.922	6/6
From Map 6	-0.173	-0.561	-0.138	1.682	7/7
From Map 7	-0.613	-0.348	0.190	0.831	7/7
From Map 8	0.883	0.807	-2.198	1.284	6/6
From Map 9	0.302	0.376	-1.990	1.008	6/6
From Map 10	0.964	0.076	-3.259	1.389	6/6
From Map 11	0.222	-0.681	3.414	1.945	6/6
From Map 12	0.852	0.576	3.304	1.507	7/7
From Map 13	0.613	-0.933	-5.027	1.203	6/6
From Map 14	-0.486	1.882	3.736	1.879	6/6
From Map 15	-1.233	2.160	5.521	2.101	6/6
From Map 16	1.376	-0.899	-3.003	1.365	6/6
Froum Map 17	1.668	-1.119	-2.643	1.898	6/6
From Map 18	0.921	-0.605	-1.321	1.971	6/6
From Map 19	0.988	-0.328	-1.180	0.778	7/7
From Map 20	-0.320	-0.267	0.005	3.518	6/6
From Map 21	0.426	0.397	1.325	2.560	6/6
From Map 22	-0.016	0.201	-0.143	2.896	6/6
From Map 23	0.013	0.587	2.328	2.558	6/6
From Map 24	-1.034	1.901	1.679	0.835	6/6
From Map 25	0.472	-0.045	-0.002	1.379	7/7
From Map 26	0.777	-0.011	-1.556	2.218	7/7
From Map 27	0.853	-0.135	-1.342	1.381	6/6
From Map 28	1.513	-3.331	-1.803	2.434	6/6
RMSE	0.805	1.036	2.381		
Min	-1.233	-3.331	-5.027		

	dX (m)	dY (m)	dZ (m)	Projection Error (pixels)	Status
Max	1.668	2.160	5.521		
Median	0.302	-0.045	-0.003		
Mean	0.240	0.003	-0.162		

	dX (m)	dY (m)	dZ (m)	Projection Error (pixels)	Status
Max	1.668	2.160	5.521		
Median	0.302	-0.045	-0.003		
Mean	0.240	0.003	-0.162		

Dense Matching

Summary

Point Cloud Density	High
Number of Tiles	21
Processing Time	05m:27s

Project Settings

System Information

Hardware	CPU: Intel(R) Core(TM) i9-14900HX RAM: 32GB GPU: NVIDIA GeForce RTX 4060 Laptop GPU (Driver: 31.0.15.5227)
Operating System	Microsoft Windows 11 Home Single Language, 64-bit
ArcGIS Drone2Map Version	2024.1.1

Coordinate Information

Image Coordinate System	GCS_WGS_1984/VCS:EGM96 Geoid
Project Coordinate System	WGS_1984_UTM_Zone_51N/VCS:EGM96 Geoid
Control Points Coordinate System	WGS_1984_UTM_Zone_51N/VCS:EGM96 Geoid

Project Resolution

Project Resolution	Automatic 1 x GSD (0.013 m)

Pre-Processing

Project Area	No
Waterbody Mask	No
Correction Feature	No

2D Product

Summary

Processing time for True Ortho	03m:33s

Processing Options

Create True Ortho	Yes
Create Digital Surface Model	No
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