2023.10.30 Drain 14C AIO LiDAR - Quality Report

PIX4Dmatic 1.51.0

Cameras	SONY ILCE5100_E16mmF2.8_16.0_6000x4000
Average GSD	1.7 cm
Project CRS	NAD83(2011) / North Dakota South (ft) + NAVD88 height (ftUS) - EPSG:6547+6360 [GEOID09]

Quality check

Matches	Median of 28555 matches per calibrated image	✓
Dataset	93.8% calibrated (2395/2553)	⚠
Camera optimization	3.0% relative difference between initial and optimized internal camera parameters	✓
GCPs	5 GCP(s), Mean RMS position error 0.008 m / Sigma 0.008	✓
Checkpoints	0 Checkpoint(s)	⚠
MTPs	0 MTP(s)	

Camera Positions

Internal Camera Parameters

SONY_ILCE5100_E16mmF2.8_16.0_6000x4000. Sensor Dimensions: 23.333 [mm] x 15.556 [mm]

	Focal length	Principal point x	Principal point y	R1	R2	R3	T1	T2
Initial	3997.929 px 15.547 mm	3024.000 px 11.760 mm	2016.000 px 7.840 mm	-0.048	0.037	-0.011	-0.000	-0.001
Optimized	4119.067 px 16.019 mm	2961.331 px 11.516 mm	1999.158 px 7.775 mm	0.002	-0.007	0.005	-0.003	-0.003
Uncertainties (Sigma)	0.037 px 0.000 mm	0.002 px 0.000 mm	0.002 px 0.000 mm	0.000	0.000	0.000	0.000	0.000

Tie points

1. Ground control points (GCPs)

Label	Position error			Reprojection error [px]	Accuracy		Verified/Marked
	X [m]	Y [m]	Z [m]		X/Y [ft]	Z [ftUS]	
1	-0.014	-0.018	0.006	0.6	0.066	0.066	21/21
2	-0.002	0.004	-0.002	0.5	0.066	0.066	21/21
3	0.016	-0.001	-0.003	0.7	0.066	0.066	20/20
4	-0.000	0.019	-0.004	0.5	0.066	0.066	20/20
5	0.001	-0.004	0.003	0.5	0.066	0.066	22/22
Mean	0.000	-0.000	-0.000	0.2			
Min	-0.014	-0.018	-0.004	0.0			
Max	0.016	0.019	0.006	0.4			
RMS	0.009	0.012	0.004	0.2			
Sigma	0.009	0.012	0.004	0.1			

Hardware & settings

System information

Hardware: CPU: 13th Gen Intel(R) Core(TM) i9-13900K, cpus=1, threads=32
RAM: 127.71 GB
GPU: NVIDIA Corporation NVIDIA GeForce RTX 4090/PCIe/SSE2
Operating system: Windows 10 Version 2009

Coordinate reference systems

Image coordinate reference system(s): WGS 84 - EPSG:4326
Ground control point (GCP) coordinate reference system: NAD83(2011) / North Dakota South (ft) + NAVD88 height (ftUS) - EPSG:6547+6360 [GEOID09]
Project coordinate reference system: NAD83(2011) / North Dakota South (ft) + NAVD88 height (ftUS) - EPSG:6547+6360 [GEOID09]

Processing settings

Calibration Completed	Densification Completed	DSM Completed	Orthomosaic Completed
Pipeline: Scalable standard Template: Large scale and corridor Internals confidence: Low Image scale: 1/1 Max extracted keypoints: Automatic Reoptimized: No Use automatic ITPs: Disabled	Noise filter: Disabled Image scale: 1/2 Min number of matches: 3 Multiscale: Enabled Density: Low Sky filter: Disabled	Input point cloud: Dense Interpolation: Enabled Surface smoothing: 12 Resolution: 1.7 cm/px	Algorithm: Hardware accelerated Oblique: Disabled Deghosting: Disabled Resolution: 1.7 cm/px
40m 13s	55m 29s	7h 3m 37s	6m 22s