



Payload 2 Daily Flight Report

Date: 2025-04-29

Flight Campaign ID: P2C1

Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO

Aircraft: N615AR

Domain: 10 (Central Plains)

Sites Flown: V10C (Boulder City South), R10D (Boulder Airport Radiometric Calibration), W10C (Wiggle Timing Test - Galaxy)

Days left in Domain: 22

Report Author: Mitch

Lidar Operators: Mitch

Flight Hours: 01:19

Spectrometer Operators: John

Hours until maintenance: 119.73

Pilots: Mac, Vince

GPS Instruments: AOP_KBDU

Adt'l Flight Crew: Elissa

Ground Crew: Mike

Summary

The crew flew portions of three separate flight plans in order to investigate the missing lidar swath and data phenomenon that was observed over the weekend. All three lidar plans (W10C, R10D, and V10C) displayed normal swath data, both during in air manual tests and auto triggered entering into lines. All indications are that the lidar data recorded was nominal. Since the same exact flight plans from this weekend were flown, it's not exactly clear why the lidar wasn't recording properly in the previous flights.

Concerns

- In each flight plan, when the lidar is auto-triggered, it appears to turn on at slightly different times in relation to the start of the time, and in some cases is started slightly after the line start.
- Some troubleshooting steps were taken to correct the direction of flight of the aircraft being displayed in the MarsRover software; instead of flying backwards, it is now flying sideways.
- Line numbering for V10C kml appears to be off.

Comments

- Continued learning about the RiAcquire software: T04 file generation (our POS data) is created and placed in every RiAcquire flight plan flown during a flight, however it appears that only the last opened flight plan will contain the complete set of T04 files.
- Checklist updates are in progress to the VQ780IIS checklist. ASOs should continue to look for the most up to date checklist when operating.
- Hangar (including flight line) expected to lose power tomorrow due to construction. P2 will transition to the gas-powered GPU during the power loss. No flights are currently planned for this period.

Daily Coverage

Estimated Cloud Cover Key

Green:	Yellow:	Red:
0-10%	11-50%	>50%

Solar Angle Less Than 40 degrees: (*)

D10|R10D

Line #	1	4
Lidar	✓	✓
Spectrometer	✓	✓
Camera	✓	
Cloud Cover		

Total number of lines flown: 2

D10|V10C

Line #	1
Lidar	✓
Spectrometer	✓
Camera	✓
Cloud Cover	

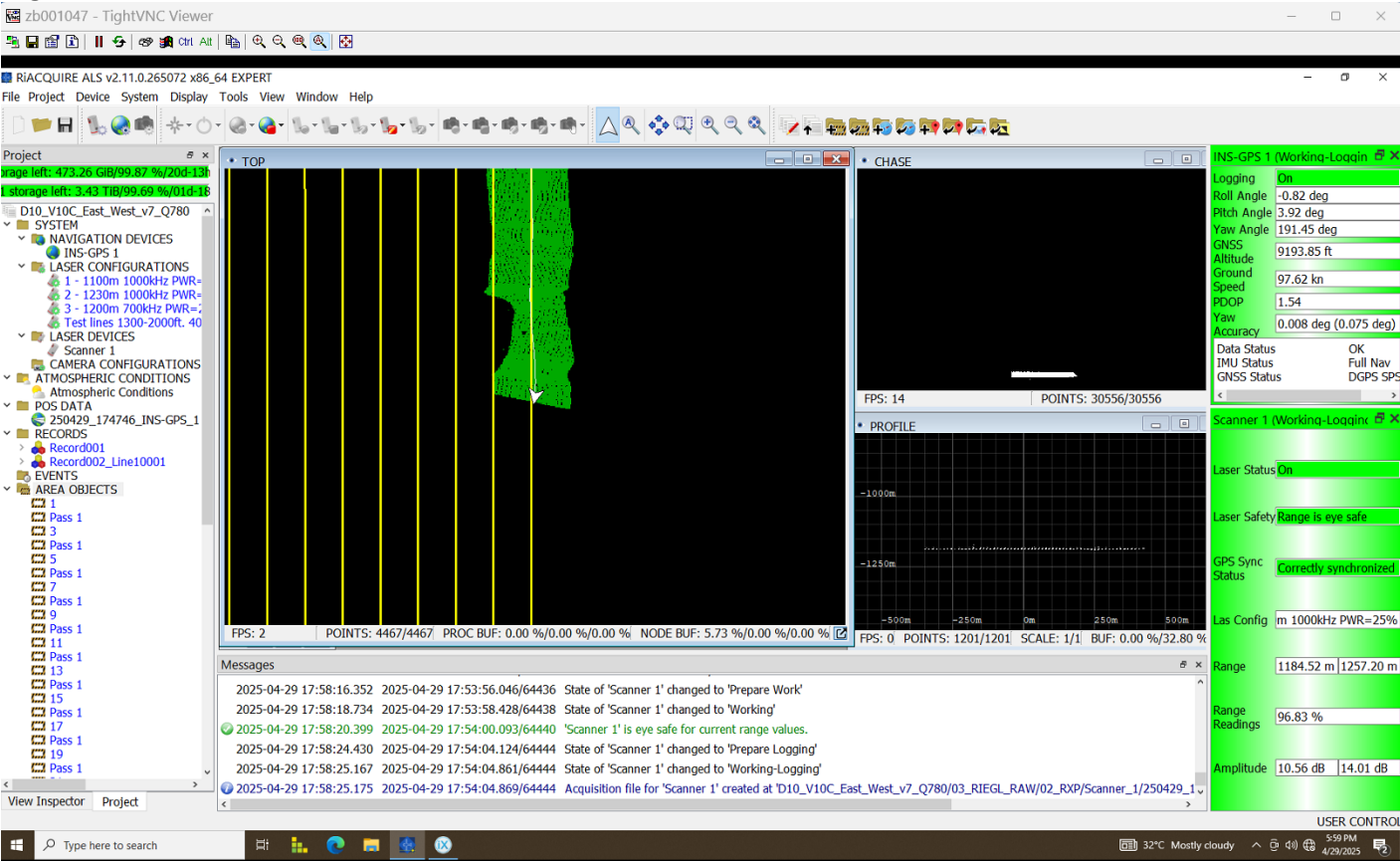
Total number of lines flown: 1

D10|W10C

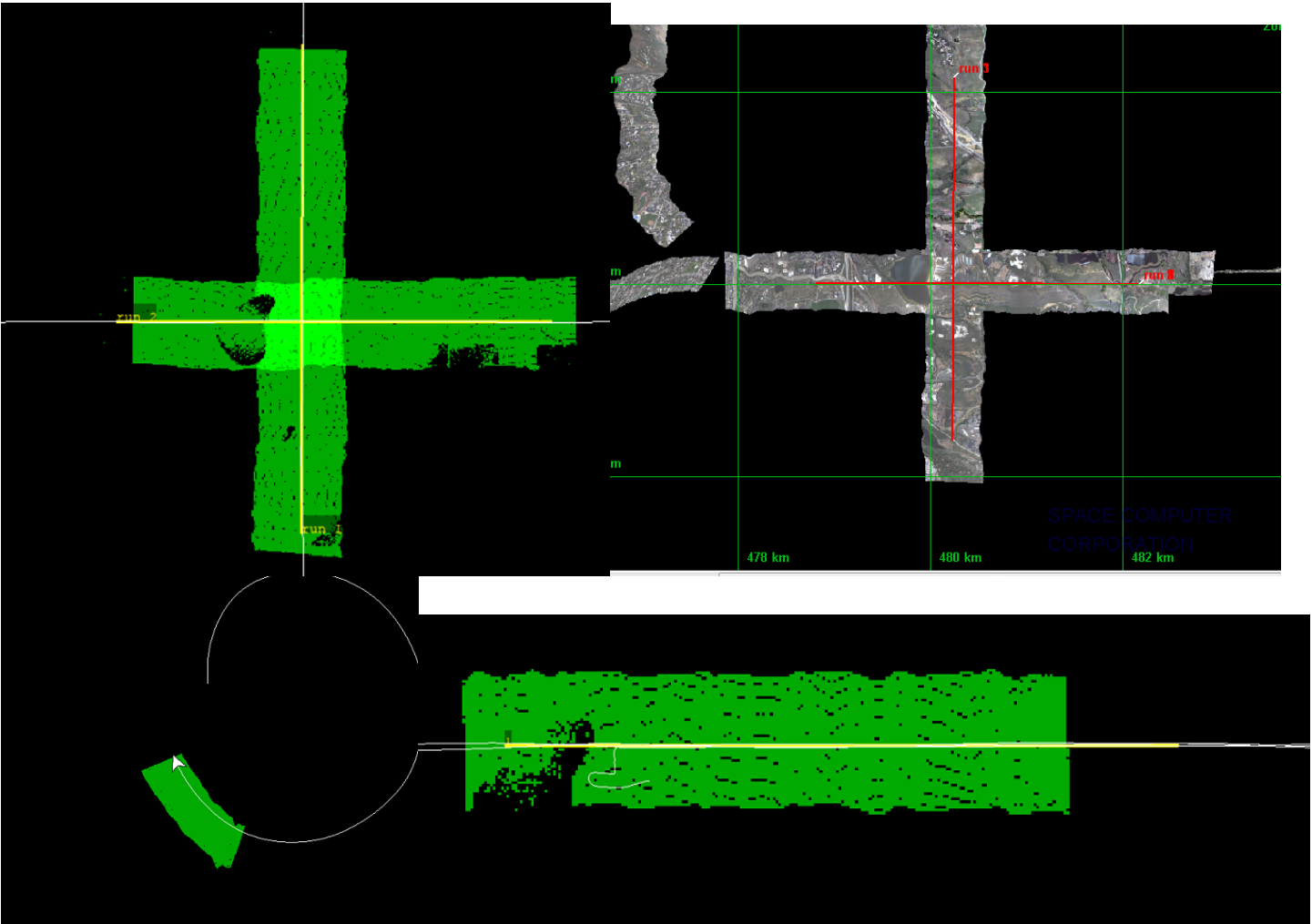
Line #	1
Lidar	✓
Spectrometer	✓
Camera	
Cloud Cover	

Total number of lines flown: 1

Flight Screenshots



Above: Lidar software being painted while flying the V10C flight plan.



Cumulative Domain Coverage

D00|B10E (Riegl Boresight Calibration - 1600m, 1000m, 500m)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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Flown: 0% (0/20)
Green: 0% (0/20)
Yellow: 0% (0/20)
Red: 0% (0/20)
* Flown within 35deg solar angle

D00|H10C (NEON Headquarters Lidar Test - Riegl)

1	2	3	4
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Flown: 0% (0/4)
Green: 0% (0/4)
Yellow: 0% (0/4)
Red: 0% (0/4)
* Flown within 35deg solar angle

D00|N10D (Nominal Runway at KBDU - Riegl)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28												

Flown: 0% (0/28)
Green: 0% (0/28)
Yellow: 0% (0/28)
Red: 0% (0/28)
* Flown within 35deg solar angle

D00|O10B (NIS Offset - Riegl)

1	2
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Flown: 0% (0/2)

Green: 0% (0/2)

Yellow: 0% (0/2)

Red: 0% (0/2)

* Flown within 35deg solar angle

D00|R10C (Table Mountain Radiometric Calibration - Riegl)

1	2	3	4	5
---	---	---	---	---

Flown: 0% (0/5)

Green: 0% (0/5)

Yellow: 0% (0/5)

Red: 0% (0/5)

* Flown within 35deg solar angle

D10|ARIK (Arikaree River)

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33	34	35							

Flown: 0% (0/33)

Green: 0% (0/33)

Yellow: 0% (0/33)

Red: 0% (0/33)

* Flown within 35deg solar angle

D10|R10D (Boulder Airport Radiometric Calibration)

1	2	3	4	5
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Flown: 100% (5/5)

Green: 100% (5/5)

Yellow: 0% (0/5)

Red: 0% (0/5)

* Flown within 35deg solar angle

D10|RMNP (Rocky Mountain National Park)

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	

Flown: 0% (0/39)

Green: 0% (0/39)

Yellow: 0% (0/39)

Red: 0% (0/39)

* Flown within 35deg solar angle

D10|STER (Sterling Agricultural Site)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25															

Flown: 0% (0/25)

Green: 0% (0/25)

Yellow: 0% (0/25)

Red: 0% (0/25)

* Flown within 35deg solar angle

D10|V10C (Boulder City South)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22																		

Flown: 5% (1/22)

Green: 0% (0/22)

Yellow: 5% (1/22)
Red: 0% (0/22)
* Flown within 35deg solar angle

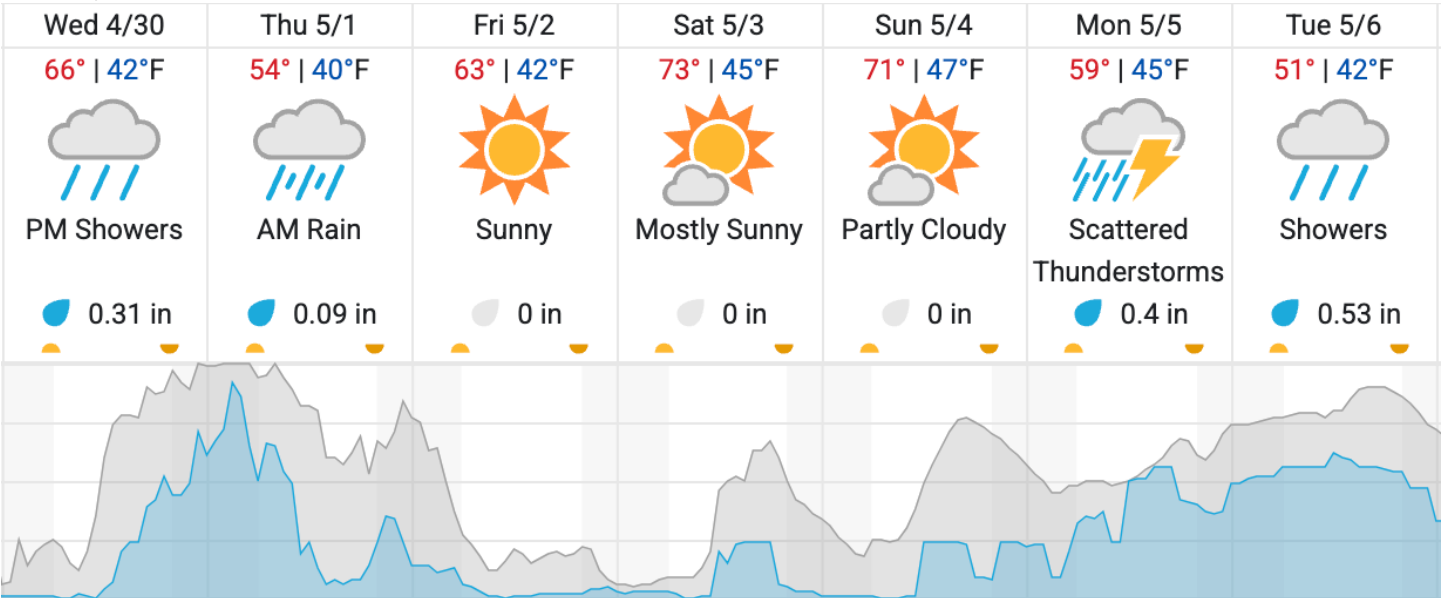
D10|W10C (Wiggle Timing Test - Galaxy)

1 2

Flown: 50% (1/2)
Green: 50% (1/2)
Yellow: 0% (0/2)
Red: 0% (0/2)
* Flown within 35deg solar angle

Weather Forecast

Boulder, CO



Cloud Cover (%) Chance of Precip. (%)

source: wunderground.com

Flight Collection Plan for April 30th 2025

Flyority 1

Collection Area: Table Mountain Radiometric Calibration
Flight Plan Name: D10_R10C_Rad_Cal_TBMT_v1_Q780
45° On-station Time: 1620 UTC / 1020 L
Additional Considerations: Ground should be dry.

Flyority 2

Collection Area: Boresight Calibration – Greeley, CO
Flight Plan Name: D10_B10E_Boresight_1600m_Q780 (RiAcquire name: D10_B10E_Boresight_Apx_Q780)
30° On-station Time: 1450 UTC / 0850 L
Additional Considerations: No recent snowfall, clear roofs required.

Flyority 3

Collection Area: Nominal Runway Survey Flight Plan
Name: D10_N10D_Nominal_Rnwy_v8_Q780

On-Station Time: Daylight – No solar angle restrictions.

Additional Considerations: Runway should not be wet or snow covered.

Flyority 4

Collection Area: NEON HQ Lidar Validation

Flight Plan Name: D10_H10C_HQ_val_v1_Q780

On-Station Time: Daylight – No solar angle restrictions.

Flyority 5

Collection Area: Wiggle Timing Test

Flight Plan Name: D10_W10C_Wiggle_Test_v6_Q780

40° On-station Time: 1550 UTC / 0950 L

Additional Considerations: Runway should not be wet, or snow covered.

Flyority 6

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10B_NIS_Offset_v2_Q780

35° On-station Time: 1540 UTC / 0940 L

Crew: Elissa (Lidar), Mike (NIS), John (Observer), Matt (Ground)