



Payload 2 Daily Flight Report

Date: 2026-03-19

Flight Campaign ID: P2C1

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

Aircraft: N821AR

Domain: 00 (Training & Calibration)

Sites Flown: H10C, W10C

Days left in Domain: 16

Report Author: Elissa

Lidar Operators: Elissa

Spectrometer Operators: Cameron

Pilots: Justin, Manning

Ground Crew: Mitch, Alyssa

Flight Hours: 00:49

Hours until maintenance: 121.73

GPS Instruments: AOP_KBDU

Summary

An attempt was made to fly Greeley boresight this morning, but we encountered repeating lidar “Refpulse” errors. After extensive in-air troubleshooting failed to solve the problem, we landed and did a full restart giving the system time to rest. A second flight was carried out with no errors, and the W10C and H10C flight plans were successfully collected.

Concerns

Coolant hose break early this morning: a substantial loss of coolant lead to an increase in NIS chamber temperature. Lab caught the problem quickly and replaced the hoses, and the system was back in spec for flights this morning. Lenses were quite dirty, likely due to the spilled coolant.

Lidar Refpulse error: according to the manual diagnosed as a diode issue in the laser safety box. During the system restart, cables were also reseated and lenses were thoroughly cleaned.

Comments

Colin from outreach came by this morning to collect video footage of the team and plane in action. He was also able to capture us flying over NEON HQ in the afternoon.

Daily Coverage

Estimated Cloud Cover Key

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

Solar Angle Less Than 40 degrees: (*)

D10|W10C

Line #	1	2
Lidar	✓	✓
Spectrometer	✓	✓
Camera	✓	✓
Cloud Cover	Green	Green

Total number of lines flown: 2

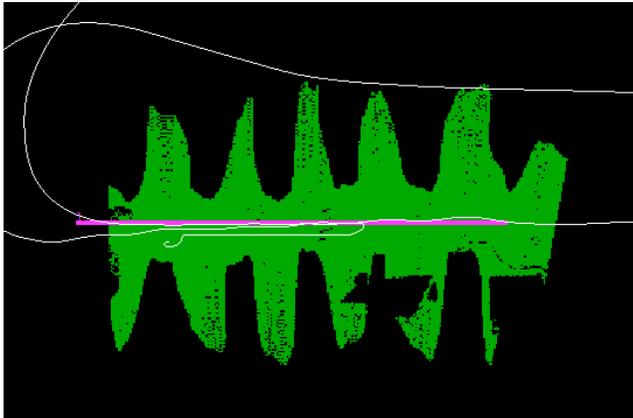
D10|H10C

Line #	1	2	3	4
Lidar	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓
Camera	✓	✓	✓	✓
Cloud Cover	Green	Green	Green	Green

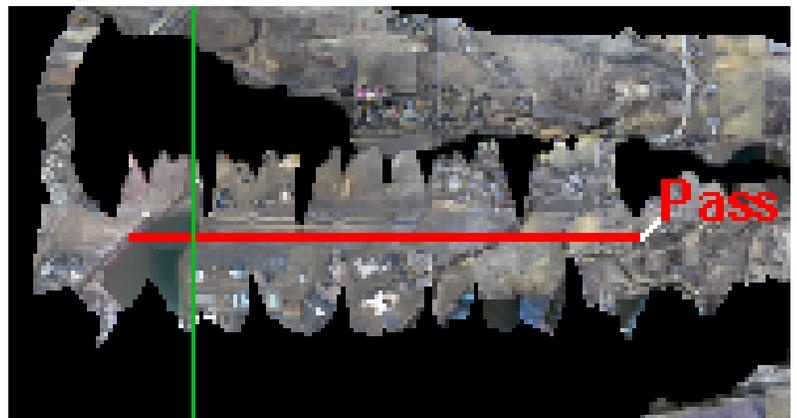
Total number of lines flown: 4

Flight Screenshots

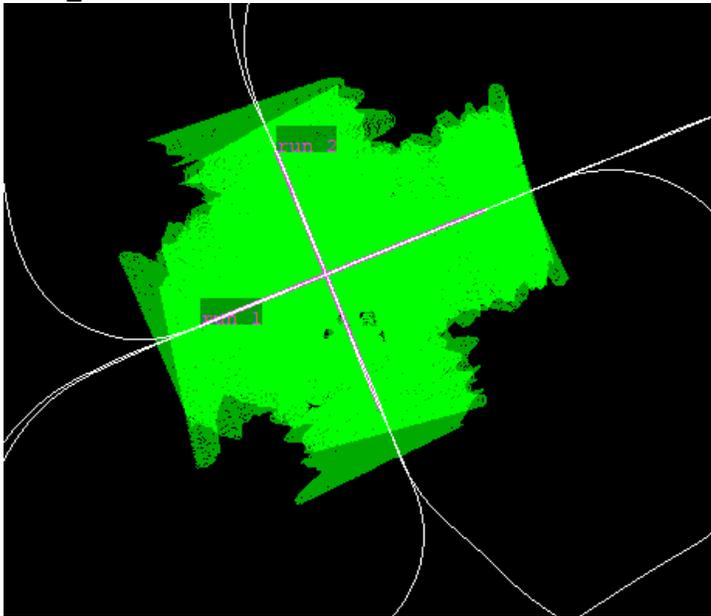
W10C_Lidar



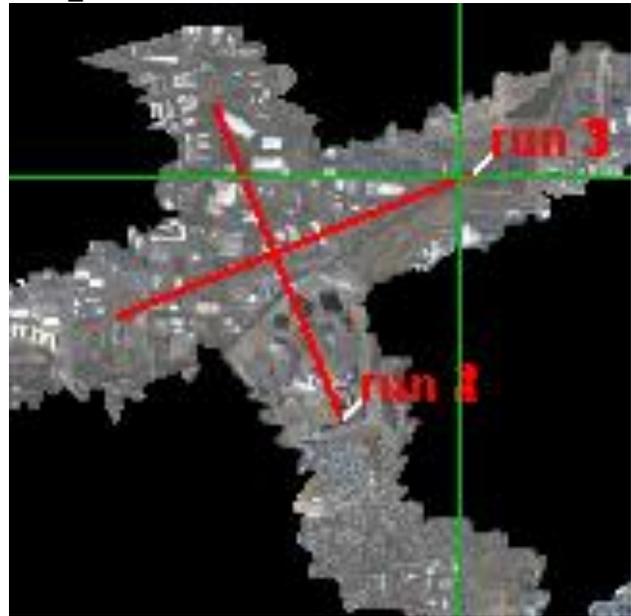
W10C_NIS



H10C_Lidar



H10C_NIS



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
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Flown: 5% (1/20)

Green: 5% (1/20)

Yellow: 0% (0/20)

Red: 0% (0/20)

* Flown within 35deg solar angle

D00|BLKF (Black Forest Waveform Range Test - Galaxy)

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

Flown: 0% (0/21)

Green: 0% (0/21)

Yellow: 0% (0/21)

Red: 0% (0/21)

* 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

D00|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: 0% (0/22)

Green: 0% (0/22)

Yellow: 0% (0/22)

Red: 0% (0/22)

* Flown within 35deg solar angle

D00|V10D (Boulder City West - 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															

Flown: 0% (0/25)

Green: 0% (0/25)

Yellow: 0% (0/25)

Red: 0% (0/25)

* Flown within 35deg solar angle

* Flown within 35deg solar angle

D10|H10C ()

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

Flown: 100% (4/4)

Green: 100% (4/4)

Yellow: 0% (0/4)

Red: 0% (0/4)

* Flown within 35deg solar angle

D10|N10D ()

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														

Flown: 0% (0/26)

Green: 0% (0/26)

Yellow: 0% (0/26)

Red: 0% (0/26)

* Flown within 35deg solar angle

D10|R10D (Boulder Airport Radiometric Calibration)

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|W10C ()

1	2
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Flown: 100% (2/2)

Green: 100% (2/2)

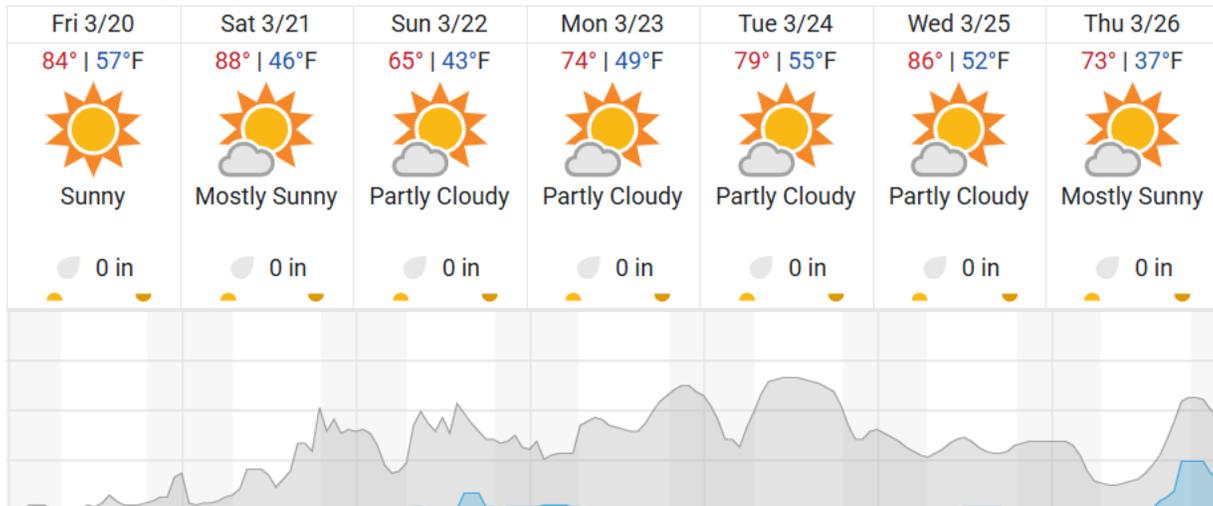
Yellow: 0% (0/2)

Red: 0% (0/2)

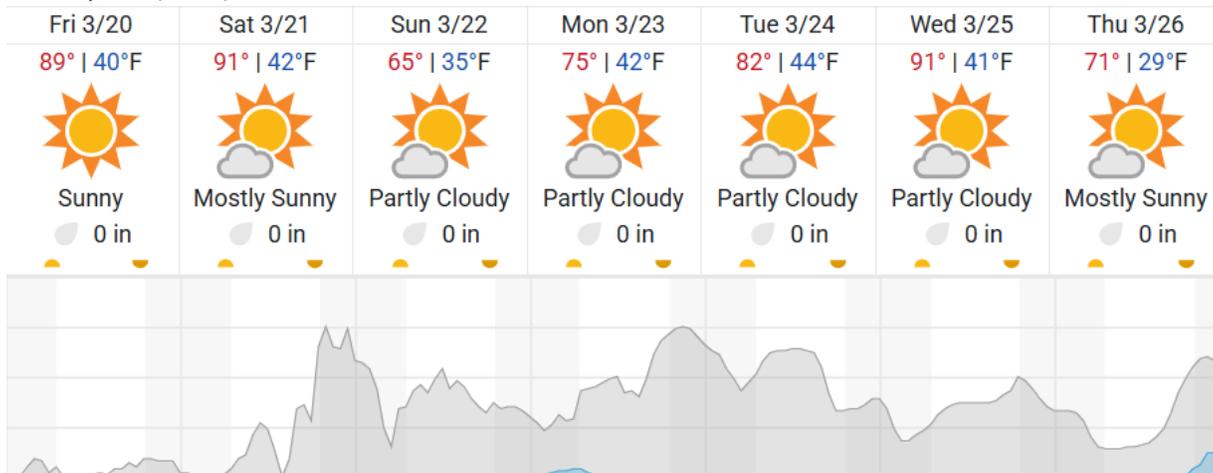
* Flown within 35deg solar angle

Weather Forecast

Boulder, CO (KBDU)



Greeley, CO (B10E)



source: wunderground.com

Flight Collection Plan for 20 March 2026

Flyority 1

Collection Area: Table Mountain Radiometric Calibration

Flight Plan Name: D10_R10C_Rad_Cal_TBMT_v2_VQ780

45o On-station Time: 1750 UTC / 1150 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_VQ780)

30o On-station Time: 1600 UTC / 1000 L

Additional Considerations: No recent snowfall, clear roofs required.

Flyority 3

Collection Area: Nominal Runway Survey Flight Plan

Name: D10_N10D_Nominal_Rnwy_v13_Q780

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

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

Flyority 4

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10B_NIS_Offset_v4_Q780

35o On-station Time: 1630 UTC / 1030 L

Flyority 5

Collection Area: Boulder City Nominal Science Flight

Flight Plan Name: D10_V10C_East_v13_VQ780 (lines 1-22, 29)/D10_V10C_West_v13_VQ780 (lines 23-28, 29)
(RiAcquire file is D10_V10C_East_West_v13_VQ780.rpp)

On-Station Time: 1700 UTC / 1100 L

Crew: Cam (**Lidar**), Alyssa (**NIS**), Mitch, Elissa (**Ground**)