



## April 9, 2019 Payload 3 Daily Flight Report



**Date:** 2019-04-09

**Flight Campaign ID:** 2019\_P3C1

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

**Domain:** 00

**Sites Flown:** R10C (Table Mountain Radiometric Calibration - Riegl), V10C (Boulder City South), TRAIN

**Days left in Domain:** 0

**Report Author:** Bridget Hass

**Flight Crew:** Nick Marusich, Robb Walker, Matt Devoe,  
Ivana Vu, Bridget Hass

**Ground/GPS:** Cameron Chapman

**Flight Hours:** 01:33

**Hours until maintenance:**  
113.03

**Pilots:** Mark Solper, Mike Francis

**Additional Personnel:** Alok Shrestha, Dave Hulslander, Headwall & CU  
Earth Lab People

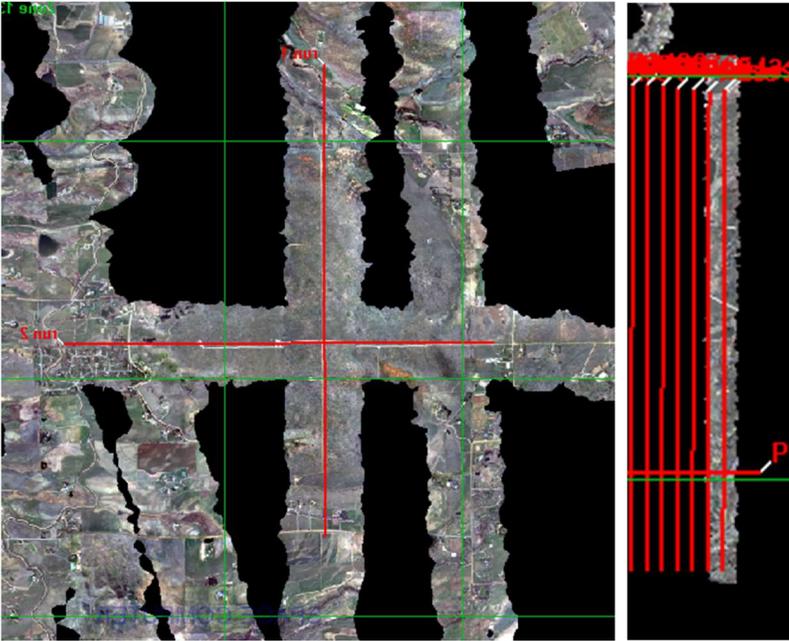
**GPS Instruments:** 01 - FBO\_KBDU

**Summary:** We flew over Table Mountain and CU South Campus coincident with Headwall drone flights, accompanied by CU Earth Lab folks. Alok, Bridget, and Dave took ASD measurements over AOP and Headwall calibration tarps. Skies were cloudy.

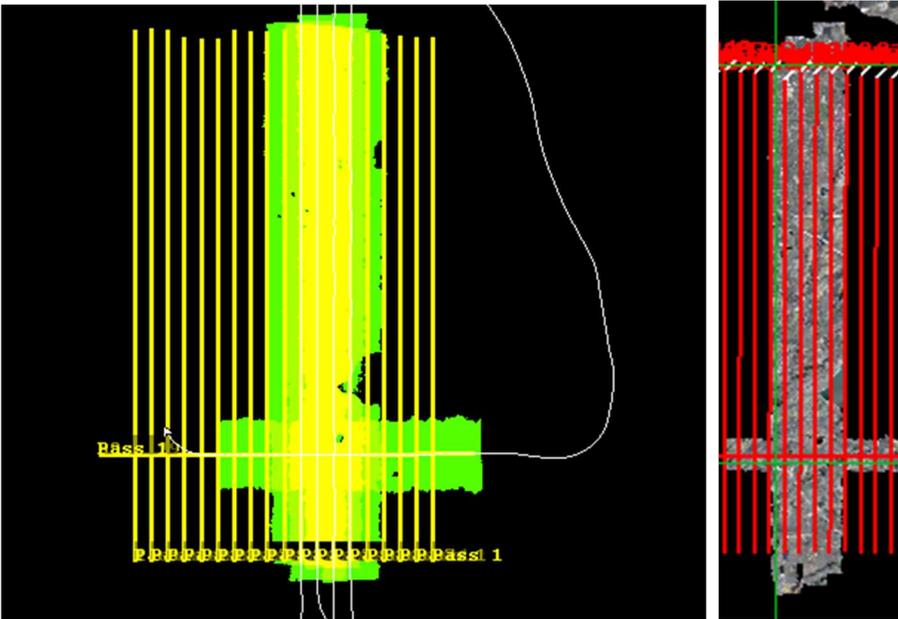
**Concerns:** On the last line of the first flight (R10C), the pressure spiked to  $8.4e-4$ . Once landed, pumped the chamber and it appeared to be a false reading from the pressure gauge. Chris Fauble helped troubleshoot and reset the transducer, focal plane temperature warmed up to 142K, and started cooling back down, but may have been off by up to a few K during the 2<sup>nd</sup> flight over Boulder City South.

**Comments:** Lots of collaborators showed up to help out with the drone flights, should have some interesting data to compare! Headwall will be giving a presentation at CU Boulder SEEC room N224 tomorrow at 2:30pm for anyone interested in learning more. With rain/snow/wind forecasted for tomorrow, calibration and training flights will likely resume on Thursday this week.

## Flight Screenshots



Morning flight (2019040915\_P3C1) R10C (left) and V10C (right).



Afternoon flight (2019040920\_P3C1) over CU Boulder South (left: LiDAR, right: NIS)

## Pictures



Headwall drone set up at Table Mountain (left), Headwall & AOP tarp set up (right).



Alok taking ASD measurements over the Headwall spectral tarps (left) and Flying over CU South (right), afternoon drone flights were near tennis courts.

## Daily Coverage

| D00 R10C | Line | SpecG | SpecY | SpecR | NIS | Lidar | Camera | Cumulative |
|----------|------|-------|-------|-------|-----|-------|--------|------------|
|          | 1    |       |       |       | ✓   | ✓     | ✓      | NLC        |
|          | 2    |       |       |       | ✓   | ✓     | ✓      | NLC        |
|          | 3    |       |       |       | ✓   | ✓     | ✓      | NLC        |
|          | 4    |       |       |       | ✓   | ✓     | ✓      | NLC        |
|          | 5    |       |       |       | ✓   | ✓     | ✓      | NLC        |
| Flown:   | 5    |       |       |       |     |       |        |            |

## Cumulative Domain Coverage

### B10D\_1600m

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
|---|---|---|

Flown: 100% (3/3)

Green: 100% (3/3)

Yellow: 0% (0/3)

Red: 100% (3/3)

### B10D\_1000m

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|

Flown: 100% (8/8)

Green: 100% (8/8)

Yellow: 0% (0/8)

Red: 0% (0/8)

### B10D\_500m

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|

Flown: 100% (9/9)

Green: 100% (9/9)

Yellow: 0% (0/9)

Red: 0% (0/9)

### H10C

|   |   |
|---|---|
| 1 | 2 |
|---|---|

Flown: 200% (4/2)

Green: 0% (0/2)

Yellow: 0% (0/2)

Red: 450% (9/2)

### 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: 85% (22/26)

Green: 0% (0/26)

Yellow: 0% (0/26)

Red: 85% (22/26)

### O10B

|   |   |
|---|---|
| 1 | 2 |
|---|---|

Flown: 0% (0/2)

Green: 0% (0/2)

Yellow: 0% (0/2)

Red: 0% (0/2)

### R10C

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

Flown: 100% (5/5)

Green: 0% (0/5)

Yellow: 0% (0/5)

Red: 100% (5/5)

### W10C

|   |   |
|---|---|
| 1 | 2 |
|---|---|

Flown: 100% (2/2)

Green: 0% (0/2)

Yellow: 0% (0/2)

Red: 100% (2/2)

## Weather Forecast

### Boulder, CO

| Tue 4/9   | Wed 4/10  | Thu 4/11  | Fri 4/12  | Sat 4/13  | Sun 4/14  | Mon 4/15   | Tue 4/16  | Wed 4/17  | Thu 4/18  |
|---|---|---|---|---|---|--|---|---|---|
| --°   46° F   | 49°   25° F   | 43°   23° F   | 43°   28° F   | 49°   30° F   | 63°   40° F   | 67°   41° F  | 59°   38° F   | 55°   37° F   | 55°   36° F   |
|  |  |  |  |  |  |  |  |  |  |
| 0 in  | < 1 in  | 0 in  | 0.05 in   | 0 in  | 0 in  | 0 in   | 0.36 in   | 0.01 in   | < 1 in  |

## Flight Collection Plan for 10-11 April 2019

### Flyority 1

Collection Area: Radiometric Calibration – Table Mountain

Flight Plan Name: D10\_R10C\_Rad\_Cal\_TBMT\_v1\_Q780.rpp

On-station Time: 1050 L / 1650 UTC

### Flyority 2

Collection Area: NIS Offset Flight

Flight Plan Name: D10\_O10B\_NIS\_Offset\_v2\_Q780.rpp

On-station Time: 1020 L / 1620 UTC

### Flyority 3

Collection Area: Boulder City Nominal Science Flight (Training)

Flight Plan Name: D10\_V10C\_East\_v7\_Q780

Crew: TBD