Payload 1 Daily Flight Report

Date: 2023-03-24
Flight Campaign ID: P1C1
Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO
Aircraft: N331AR

Domain: 00 (Training & Calibration)
Sites Flown: N10F (Nominal Runway at KBDU - Galaxy)
Days left in Domain: 6

Report Author: Cameron
Lidar Operators: Cameron Flight Hours: 02:36
Spectrometer Operators: Elissa Hours until maintenance: 120.52
Pilots: Justin, Vince GPS Instruments: AOP_KBDU
Ground Crew: Mitch, Matt

Summary
The crew completed the Nominal Runway flight plan under mixed cloud conditions. This flight also served as a recertification flight for Elissa on the NIS and Cameron on the Lidar.

Concerns
- The camera computer lost connection with the VNC several times during flight.
- Random eye safe shutoff at the high PRF setting.

Comments
- Mitch, Elissa and Cameron are now certified on the NIS, P1 Lidar and Ground.

Daily Coverage

Estimated Cloud Cover Key

<table>
<thead>
<tr>
<th>Green: 0-10%</th>
<th>Yellow: 11-50%</th>
<th>Red: &gt;50%</th>
</tr>
</thead>
</table>

D00|N10F

<table>
<thead>
<tr>
<th>Line #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidar</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Camera</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cloud Cover</td>
<td>Green</td>
<td>Green</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

| Line # | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Lidar | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Spectrometer | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Camera | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cloud Cover | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow |


Total number of lines flown: 37

Flight Screenshots

Pictures

A view over Boulder during the Nominal Runway Flight.
## Cumulative Domain Coverage

### D00|B10F (Complete Greeley Boresight Geocalibration - 1500m, 1000m, 550m - Galaxy)

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

- Flown: 90% (18/20)
- Green: 0% (0/20)
- Yellow: 75% (15/20)
- Red: 15% (3/20)

### D00|H10D (NEON Headquarters Lidar Validation - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

- Flown: 100% (4/4)
- Green: 0% (0/4)
- Yellow: 0% (0/4)
- Red: 100% (4/4)

### D00|N10F (Nominal Runway at KBDU - Galaxy)

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

- Flown: 100% (37/37)
- Green: 14% (5/37)
- Yellow: 86% (32/37)
- Red: 0% (0/37)

### D00|O10C (NIS Offset - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>

- Flown: 0% (0/2)
- Green: 0% (0/2)
- Yellow: 0% (0/2)
- Red: 0% (0/2)

### D00|R10E (Table Mountain Radiometric Calibration - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

- Flown: 0% (0/5)
- Green: 0% (0/5)
- Yellow: 0% (0/5)
- Red: 0% (0/5)

### D00|W10D (Wiggle Timing Test - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>

- Flown: 100% (2/2)
- Green: 0% (0/2)
- Yellow: 0% (0/2)
- Red: 100% (2/2)
Weather Forecast
Boulder, CO

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>39°</td>
<td>20°F</td>
<td>39°</td>
<td>20°F</td>
<td>39°</td>
<td>19°F</td>
<td>48°</td>
</tr>
</tbody>
</table>

Partly Cloudy 0 in
Mostly Cloudy -- in
Partly Cloudy 0 in
Partly Cloudy 0 in
PM Showers -- in
Snow Showers 1.4 in
Mostly Cloudy 0 in

source: wunderground.com

Flight Collection Plan for 25 March 2023

Flyority 1
Collection Area: Table Mountain Radiometric Calibration
Flight Plan Name: D10_R10E_Radiometric_Cal_Table_Mtn_v1_PRM.xml
45° On-station Time: 1740 UTC / 1140 L
Additional Considerations: Ground should be dry.

Flyority 2
Collection Area: NIS Offset Flight
Flight Plan Name: D10_O10C_NIS_Offset_v2_PRM.xml
35° On-station Time: 1620 UTC / 1030 L

Flight Crew
Elissa (Lidar), Mitch (NIS), Cam (Ground)