Payload 1 Daily Flight Report

Date: 2024-05-04  
Flight Campaign ID: P1C1  
Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO  
Aircraft: N615AR

Domain: 00 (Training & Calibration)  
Sites Flown: V10F (Boulder City Nominal - Galaxy)  
Days left in Domain: 8

Report Author: Elissa  
Lidar Operators: Elissa  
Flight Hours: 01:26  
Spectrometer Operators: Matt  
Hours until maintenance: 113.75  
Pilots: Shane, Jeff  
GPS Instruments: AOP_KBDU  
Ground Crew: Mike

Summary

Unfortunately the 4th was not with us on today’s flight. The spectrometer performed worse than yesterday, with such a high frequency of timestamp and framegrabber errors as to make collection unfeasible. Once again, after several restart attempts it was shut down for the remainder of the flight. Although we were unable to fly the western portion of the Boulder City flight plan due to low clouds over the mountains, we did successfully collect 11 lines of variable PRF lidar data, while also adjusting the Tr Thresholds. Hopefully this will provide some useful material to our science team for assessing noise levels in waveform data.

Concerns

NIS errors occurring at levels unsustainable for data collection.

Comments

Spectrometer-dependent flight plans such as Radiometric Calibration are on hold until more thorough troubleshooting and testing can be performed on the NIS. We plan to prioritize lidar collection at CPER in order to test the endurance of the digitizer at high PRFs.

Daily Coverage

Estimated Cloud Cover Key

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

Solar Angle Less Than 40 degrees

| Line # |
D00|V10F

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Total number of lines flown: 11

Flight Screenshots

Lidar

Cumulative Domain Coverage

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

Flown: 100% (20/20)
Green: 10% (2/20)
Yellow: 90% (18/20)
Red: 0% (0/20)

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

Flown: 0% (0/21)
Green: 0% (0/21)
Yellow: 0% (0/21)
Red: 0% (0/21)
D00|CPER (Central Plains Ecological Range)

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*Flown: 0% (0/28)*
*Green: 0% (0/28)*
*Yellow: 0% (0/28)*
*Red: 0% (0/28)*

D00|H10D (NEON Headquarters Lidar Validation - Galaxy)

| 1 | 2 | 3 | 4 |

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

D00|N10F (Nominal Runway at KBDU - Galaxy)

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*Flown: 100% (37/37)*
*Green: 0% (0/37)*
*Yellow: 43% (16/37)*
*Red: 57% (19/37)*

D00|O10C (NIS Offset - Galaxy)

| 1 | 2 |

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

D00|R10E (Table Mountain Radiometric Calibration - Galaxy)

| 1 | 2 | 3 | 4 | 5 |

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

D00|V10F (Boulder City Nominal - Galaxy)

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*Flown: 21% (6/29)*
*Green: 0% (0/29)*
*Yellow: 0% (0/29)*
*Red: 21% (6/29)*

D00|W10D (Wiggle Timing Test - Galaxy)

| 1 | 2 |

*Flown: 100% (2/2)*
*Green: 0% (0/2)*
*Yellow: 100% (2/2)*
*Red: 0% (0/2)*
Weather Forecast

Boulder, CO (KBDU)

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<thead>
<tr>
<th></th>
<th>Sun 5/5</th>
<th>Mon 5/6</th>
<th>Tue 5/7</th>
<th>Wed 5/8</th>
<th>Thu 5/9</th>
<th>Fri 5/10</th>
<th>Sat 5/11</th>
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<tbody>
<tr>
<td>Temp</td>
<td>76°</td>
<td>45°F</td>
<td>57°</td>
<td>42°F</td>
<td>58°</td>
<td>36°F</td>
<td>58°</td>
</tr>
<tr>
<td>Cond</td>
<td>Partly Cloudy/ Wind</td>
<td>Partly Cloudy/ Wind</td>
<td>Mostly Sunny</td>
<td>Partly Cloudy/Wind</td>
<td>Mostly Sunny</td>
<td>Showers</td>
<td>Showers</td>
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<td>Precip</td>
<td>0 in</td>
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Nunn, CO (CPER)

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<td>Partly Cloudy/Wind</td>
<td>Mostly Cloudy/Wind</td>
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source: wunderground.com

Flight Collection Plan for 5 May 2024

Flyority 1

Collection Area: Table Mountain Radiometric Calibration
Flight Plan Name: D10_R10E_Radiometric_Cal_Table_Mtn_v2_PRM.xml
45° On-station Time: 16:10 UTC / 09:10 L
Additional Considerations: Ground should be dry.
Flyority 2
Collection Area: Central Plains Ecological Range – 1000 kHz PRF test flight
Flight Plan Name: D10_CPER_C1_P1_v7_PRM_maxPRF_test.xml
35° On-station Time: 15:20 UTC / 09:20 L

Flyority 3
Collection Area: Black Forest Waveform Range Test Flight
Flight Plan Name: D10_BLKF_Black_Forest_v4_PRM.xml
On-Station Time: Daylight – No solar angle restrictions.

Flyority 4
Collection Area: NIS Offset Flight
Flight Plan Name: D10_O10C_NIS_Offset_v3_PRM.xml
35° On-station Time: 15:20 UTC / 08:20

Flight Crew

Mike (Lidar), Elissa (Ground)