

Payload 3 Daily Flight Report



Date: 2021-05-27

Flight Campaign ID: P3C1

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

Aircraft: N615AR

Domain: 10 (Central Plains)

Sites Flown: CPER (Central Plains Ecological Range), STER (Sterling Agricultural Site)

Days left in Domain: 12

Report Author: Cameron Chapman

Lidar Operators: Cameron Chapman Flight Hours: 03:29

Spectrometer Operators: Mitch Haynes Hours until maintenance: 121.50

Pilots: Stephen Brawders, Mark Solper GPS Instruments: AOP_CPER, AOP_KBDU, AOP_STER

Ground Crew: Matt Devoe

Summary

The tower camera showed clearing skies this morning over CPER. After arriving on station the crew experienced a technical issue with the recently reformatted MIADS 1 disk during the first line of collection. After a few moments of troubleshooting, the crew changed the MIDAS 1 disk and shifted the flight to STER due to rapidly building cumulus clouds near CPER. We were able to collect 12 lines at STER in "green" flight conditions.

Concerns

- Riegl **set 1**, MIDAS 1 disk appears to be malfunctioning. The camera error occurred near the midpoint of the first line. Ultimately the crew had to switch disks to proceeded with data collection. More testing will be needed to confirm disk issue.
- After a MIDAS power cycle, the Q780 laser has a very difficult time reinitializing.

Comments

- The flight crew used the MIDAS 1 disk from **set 2** to complete mission.
- The payload will be shutdown Saturday after any potential flights. We will allow the payload to warm up to room temperature before it is pumped/cooled down. This will reduce the effects of the blue Quantum Efficiency shift in the Focal Plane Array.

Daily Coverage

Estimated Cloud Cover Key

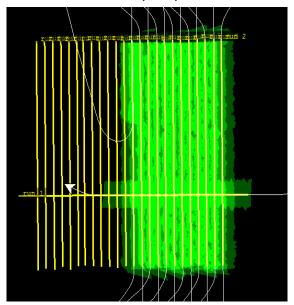
Green:	Yellow:	Red:
0-10%	11-50%	>50%

D10|STER Total number of lines flown: 12

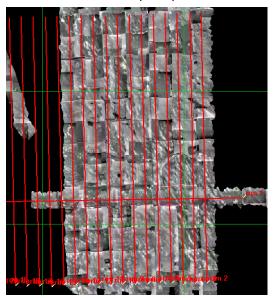
Line #	2	3	4	5	6	7	8	9	10	11	12	13
Lidar	/	\	\	√	/	/	√	\	✓	✓	✓	\
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	√	√	✓	✓	√	✓	√	✓	✓	✓	✓
Cloud Cover												

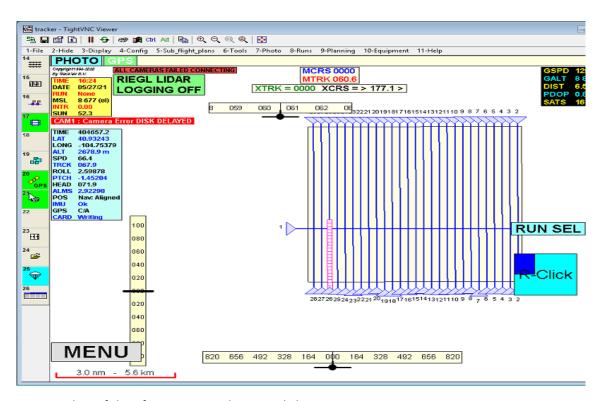
Flight Screenshots

Lidar Swath (STER)



NIS GeoPaint (STER)





A screenshot of the aforementioned MIDAS disk error. CAM1:Camera Error DISK DELAYED

Pictures

None:

Cumulative Domain Coverage

D10 | ARIK (Arikaree River)

		١																	
1															16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35					

Flown: 0% (0/35) Green: 0% (0/35) Yellow: 0% (0/35) Red: 0% (0/35)

D10 | CPER (Central Plains Ecological Range)

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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			•	•		•	•	•		•		

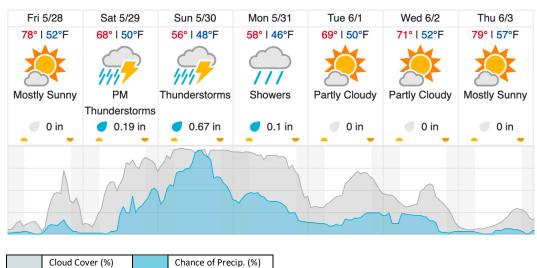
Flown: 39% (11/28) Green: 36% (10/28) Yellow: 4% (1/28) Red: 0% (0/28)

D10|STER (Sterling Agricultural Site)

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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: 52% (13/25) Green: 52% (13/25) Yellow: 0% (0/25) Red: 0% (0/25)

Weather Forecast



source: wunderground.com

Flight Collection Plan for 28 May 2021

Flyority 1

Collection Area: Central Plains Ecological Range (CPER)

Flight Plan Name: D10_CPER_C1_P1_v6_Q780

On-station Time: 1500 UTC / 0900 L

Flyority 2

Collection Area: Sterling Agricultural Site (STER) Flight Plan Name: D10_STER_R1_P1_ v3_Q780

On-station Time: 1450 UTC / 0850 L

Flyority 3

Collection Area: Arikaree River (ARIK)

Flight Plan Name: D10_ARIK_A1_P2_v3_Q780

On-station Time: 1510 UTC / 0910 L

Flyority 4

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10B_NIS_Offset_v2_Q780

On-station Time: 1510 UTC / 0910 L

Flight Crew: Mitch (Lidar), Cam (NIS), Matt (Ground)