



Payload 1 Daily Flight Report



Date: 2022-07-11

Flight Campaign ID: P1C1

Airport, FBO ID, City: Portland-Hillsborough Airport (KHIO) - Hillsboro, OR

Aircraft: N331AR

Domain: 16 (Pacific Northwest)

Sites Flown: ABBY (Abby Road)

Days left in Domain: 4

Report Author: Mike

Lidar Operators: Mike

Spectrometer Operators: Abe

Pilots: Nick , Robbie

Flight Hours: 04:50, 02:15

Hours until maintenance: 112.43

GPS Instruments: 04 - FBO - KHIO, AOP_ABBY, AOP_WREF

Summary

The forecast held true and we finally got a mostly clear, but hot day in D16. Nearly the entire Priority 1 foliar sampling site, ABBY, was completed in desirable cloud conditions today. The flight was extended as long as possible, but fuel constraints pushed us home before getting the last two lines. During our fuel stop, the cirrus clouds started moving over, but with time in D16 dwindling, the crew decided to collect the at the lowest priority area, WREF P2. The heat was concerning for the system, so we did a full system refresh during the fuel stop. During the transit to the site, the lidar KVM started malfunctioning badly, but was able to be resolved. See concerns for details. A total of 53 lines were flown.

Concerns

-The Getter ION pump was beeping loudly and displaying "Error" in the top line of the screen when we arrived this morning. The getter was reactivated on 7/2. We power cycled the ION pump and it seemed to resolve the issue.

-The Crystal/KVM/Roller Mouse became unusable after becoming airborne on the second flight. The pointer was shaking intensely in the top right part of the screen and could not be controlled. Using the external mouse and reseating cables did not resolve the issue. Abe was able to VNC into the Crystal and could somewhat control the mouse. We were able to restart the Crystal while leaving the UPDU, POS, and Camera Controller on and this resolved the issue. The KVM was noticeably quite warm during start-up, but after Crystal restart, there was no hint of mouse issues for the remainder of the flight.

Comments

- Pilot Nick K flew his last NEON flight today, glad it was some good seat time. Good luck on your new venture!!
- Awesome job by both pilots today, it was a long day with interesting conditions.
- Vince arrives tonight to replace Nick.

Daily Coverage

Estimated Cloud Cover Key

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

D16|ABBY

Line #	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover																					

Line #	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover																				

Line #	44
Lidar	✓
Spectrometer	✓
Camera	✓
Cloud Cover	

Total number of lines flown: 42

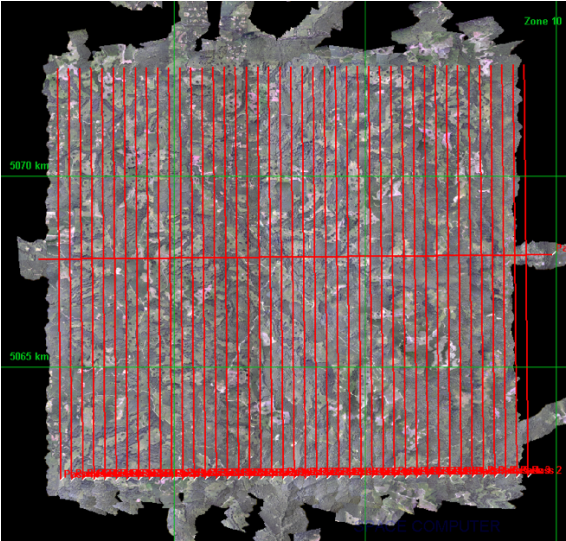
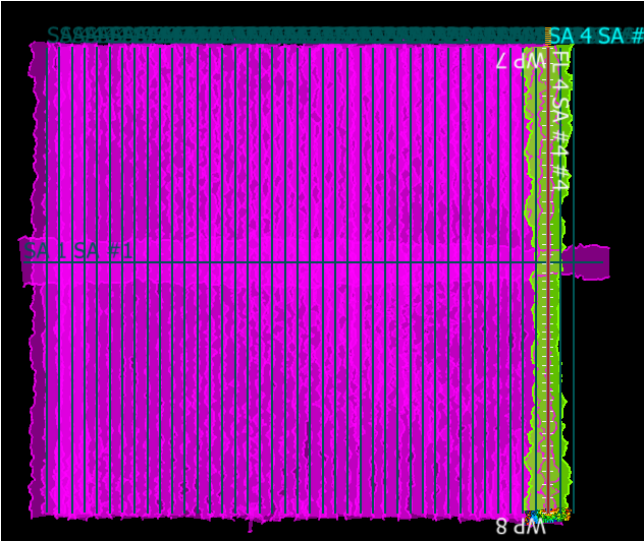
D16|WREF_P2

Line #	68	69	70	71	72	73	74	75	76	77	78
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover											

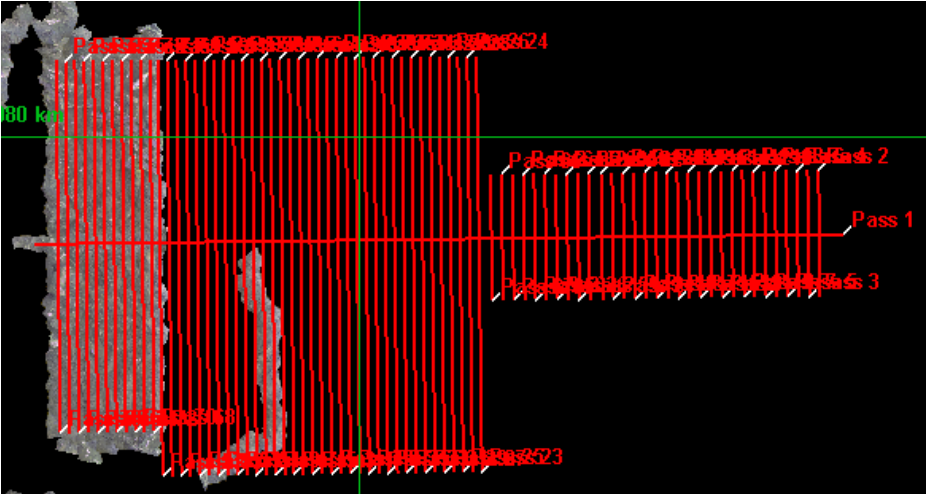
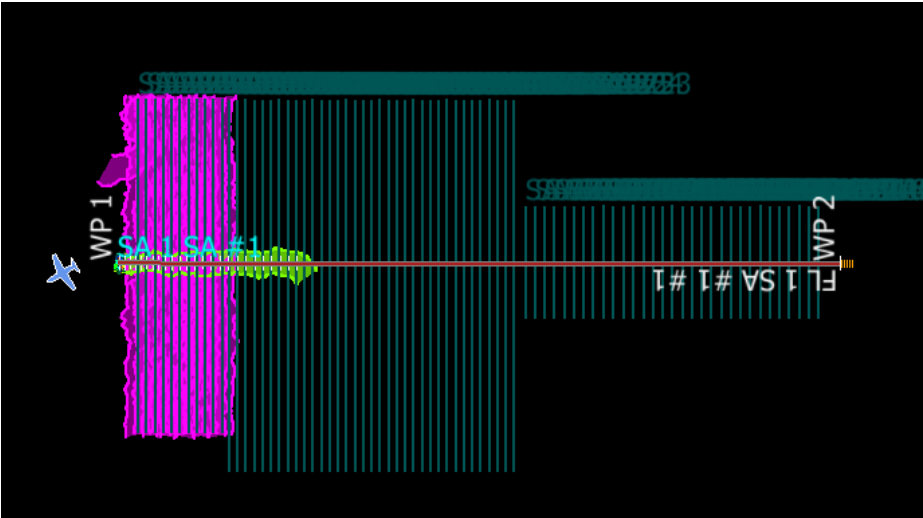
Total number of lines flown: 11

Flight Screenshots

ABBY



WREF P2



Pictures



Mt. St Helen’s and Rainier in the morning (left) and Mt. St Helen’s with some unlucky cirrus in the afternoon (right).

Cumulative Domain Coverage

D16 | ABBY (Abby Road)

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	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44																

Flown: 95% (42/44)
Green: 95% (42/44)
Yellow: 0% (0/44)
Red: 0% (0/44)

D16 | MCRA (McRae Creek)

1	2	3	4	5	6	7	8	9
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Flown: 0% (0/9)
Green: 0% (0/9)
Yellow: 0% (0/9)
Red: 0% (0/9)

D16 | N16A (D16 Nominal Runway)

Flown: 100% (1/1)
Green: 0% (0/1)
Yellow: 0% (0/1)
Red: 100% (1/1)

D16|WREF_P1 (Wind River Experimental Forest Priority 1)

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	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57			

Flown: 0% (0/57)
Green: 0% (0/57)
Yellow: 0% (0/57)
Red: 0% (0/57)

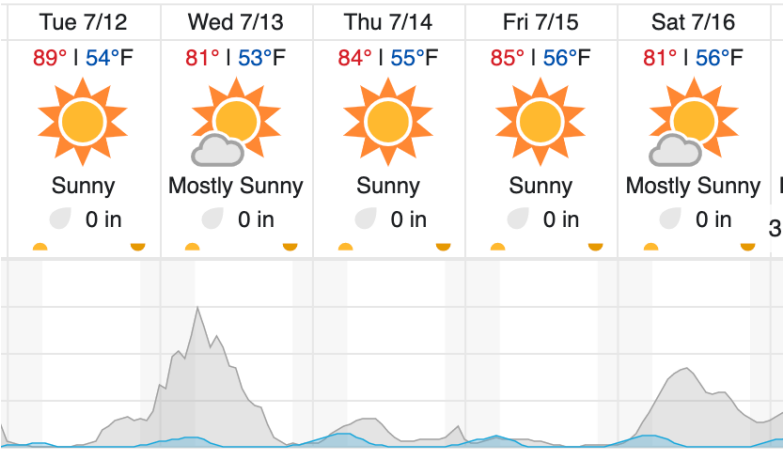
D16|WREF_P2 (Wind River Experimental Forest Priority 2)

58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
78																			

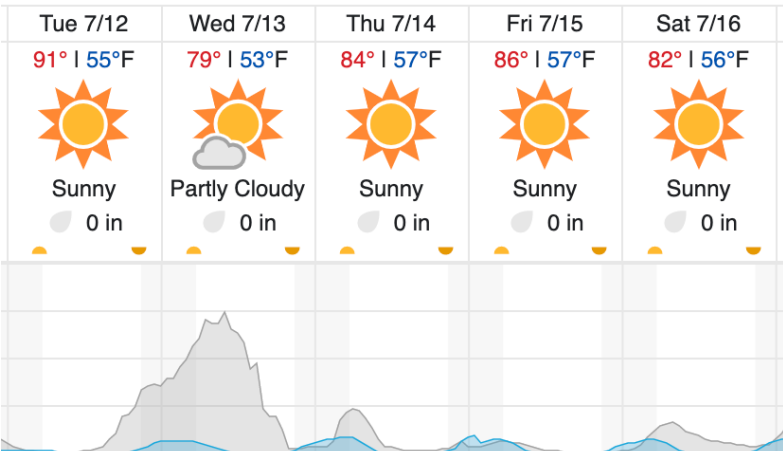
Flown: 52% (11/21)
Green: 0% (0/21)
Yellow: 33% (7/21)
Red: 19% (4/21)

Weather Forecast

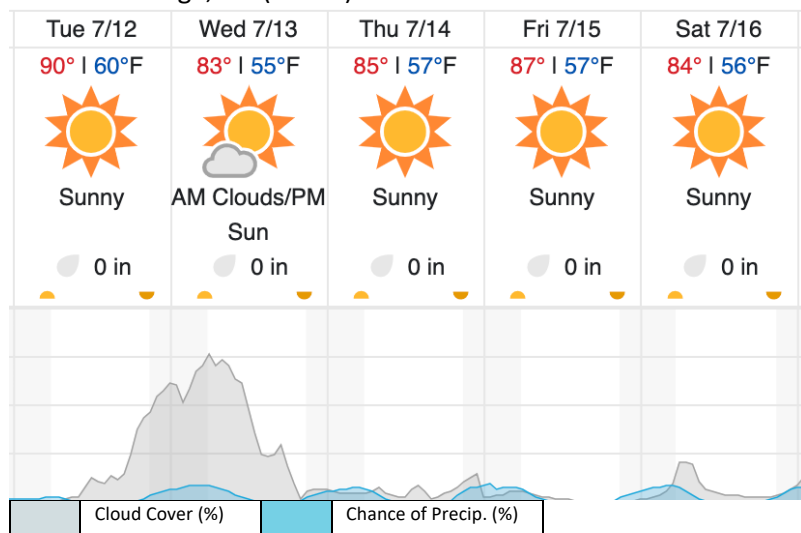
Hillsboro, OR



Carson, WA (WREF, ABBY)



Mckenzie Bridge, OR (MCRA)



source: wunderground.com

Flight Collection Plan for July 12, 2022

Flyority 1

Collection Area: Abby Road (ABBY) Line 2-4

Flight Plan Name: D16_ABBY_R2_P1_v2_PRM.xml

On-station Time: 1640 UTC / 0940 L

Flyority 2

Collection Area: Wind River Experimental Forest (WREF) – Priority 1 Flight Box

Flight Plan Name: D16_WREF_C1_P1_P2_v3_PRM.xml

On-station Time: 1640 UTC / 0940 L

Flyority 3

Collection Area: McRae Creek (MCRA)

Flight Plan Name: D16_MCRA_A2_P1_v2_PRM.xml

On-station Time: 1640 UTC / 0940 L

Flyority 4

Collection Area: Wind River Experimental Forest (WREF) – Priority 2 Flight Box

Flight Plan Name: D16_WREF_C1_P1_P2_v3_PRM.xml

On-station Time: 1640 UTC / 0940 L

Crew: Abe(Lidar), Mike (NIS)