



Payload 3 Daily Flight Report



Date: 2024-07-12

Flight Campaign ID: P3C1

Airport, FBO ID, City: Wausau Downtown Airport (KAUW) - Wausau, WI

Aircraft: N821AR

Domain: 05 (Great Lakes)

Sites Flown: STEI_TREE_P1 (Steigerwaldt Land Services and Treehaven Priority 1), WABI (NEON Research Support Services - Wabikon Forest Dynamics Plot)

Days left in Domain: 3

Report Author: Elissa

Lidar Operators: Elissa

Spectrometer Operators: Cameron

Pilots: Justin, Jacob

Flight Hours: 02:38

Hours until maintenance: 18.73

GPS Instruments: 06 - FBO_KAUW, WISCORS_CRON, WISCORS-RHER

Summary

Due to the ongoing cloud-related challenges in D05 this year, we got an early start today and arrived on station at STEI-TREE before the 40 degree solar angle, which gave us just enough time to complete STEI-TREE and WABI. Four lines were collected at STEI-TREE at a solar angles between 35 and 40 degrees. There was thick haze, but favorable cloud conditions for green collection.

After completing STEI-TREE, we returned to WABI for a second attempt. Despite cumulus in the vicinity, we were able to collect the remaining four lines (including the sampling plots in the center of the site) in yellow conditions with no shadows. We attempted to re-fly line 3, collected yesterday in red, but clouds moved over the box.

This marks the completion of initial coverage for D05; we will use the remaining time to work out the ongoing issues with data QA and watch for opportunities to "green up."

Concerns

- The NIS experienced an error in latitude, and mapped the plane about .3 degrees south of its true position. STEI-TREE was flown with this positional inaccuracy, as we couldn't afford to lose time troubleshooting during our limited window of green collection.
- The NIS was restarted between STEI-TREE and WABI and mapped correctly after that.

Comments

- We gave a tour to D05 staff and researchers from the University of Notre Dame this afternoon. Thanks all for making the long drive to come see us!
- The science team is continuing to work through QA issues. RAID05 is not yet ready to be shipped.
- RAID06 will be formatted soon, once the team is at a good stopping point with the RAID05 data.
- Matt arrives in D05 tonight. Welcome back to Wausau, Matt!

Daily Coverage

Estimated Cloud Cover Key

Green: 0-10%	Yellow: 11-50%	Red: >50%
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Solar Angle Less Than 40 degrees

Line #

D05|STEI_TREE_P1

Line #	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover														

Total number of lines flown: 14

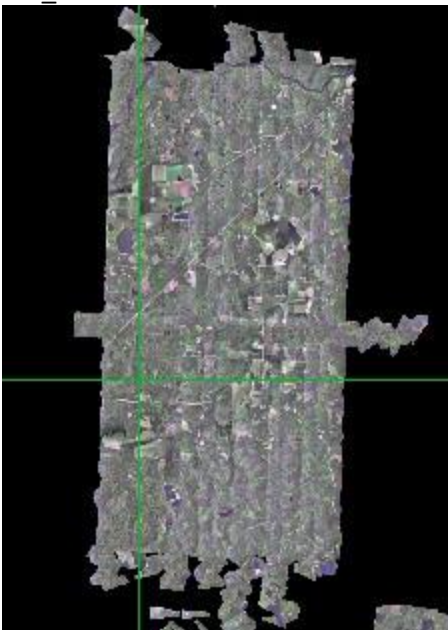
D05|WABI

Line #	3	4	5	6	7
Lidar	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓
Cloud Cover					

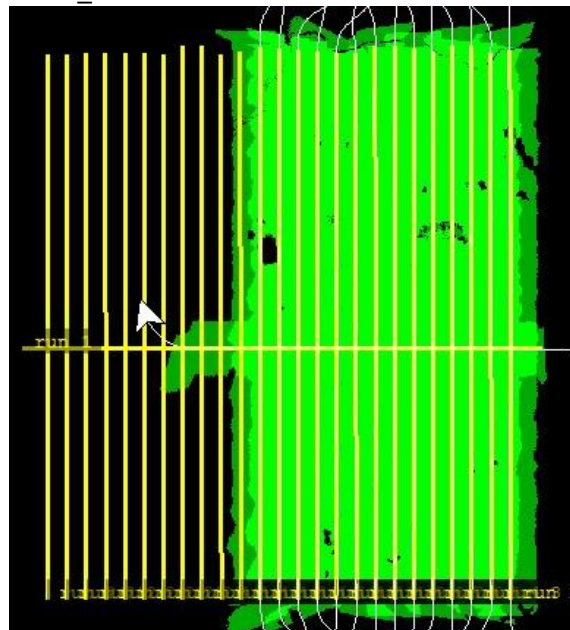
Total number of lines flown: 5

Flight Screenshots

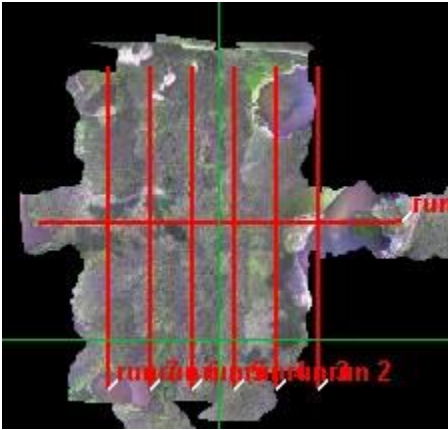
NIS_STEI-TREE



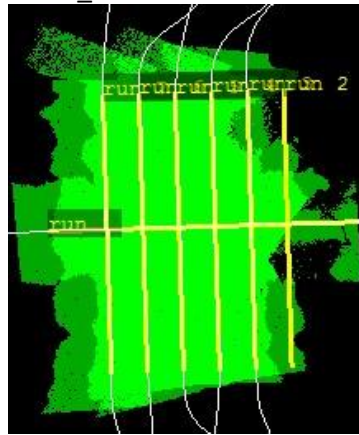
LIDAR_STEI-TREE



NIS_WABI



LIDAR_WABI



Pictures



Cloud free haze this morning at STEI-TREE.



Staff from NEON Domain 5 at the payload tour today.

Cumulative Domain Coverage

D05 | CHEQ (Chequamegon-Nicolet National Forest)

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
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Flown: 100% (16/16)
 Green: 0% (0/16)
 Yellow: 31% (5/16)
 Red: 69% (11/16)

D05 | LIRO (Little Rock Lake)

2	3	4	5	6	7	8
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Flown: 100% (7/7)
 Green: 0% (0/7)
 Yellow: 71% (5/7)
 Red: 29% (2/7)

D05 | STEI_TREE_P1 (Steigerwaldt Land Services and Treehaven Priority 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: 100% (25/25)
 Green: 100% (25/25)
 Yellow: 0% (0/25)
 Red: 0% (0/25)
 * Flown within 35deg solar angle

D05 | STEI_TREE_P2 (Steigerwaldt Land Services and Treehaven Priority 2)

27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
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Flown: 100% (18/18)
 Green: 0% (0/18)
 Yellow: 61% (11/18)
 Red: 39% (7/18)

D05 | UNDE (University of Notre Dame Environmental Research Center)

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												

Flown: 100% (28/28)

Green: 25% (7/28)

Yellow: 21% (6/28)

Red: 54% (15/28)

* Flown within 35deg solar angle

D05 | WABI (NEON Research Support Services - Wabikon Forest Dynamics Plot)

2	3	4	5	6	7
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Flown: 100% (6/6)

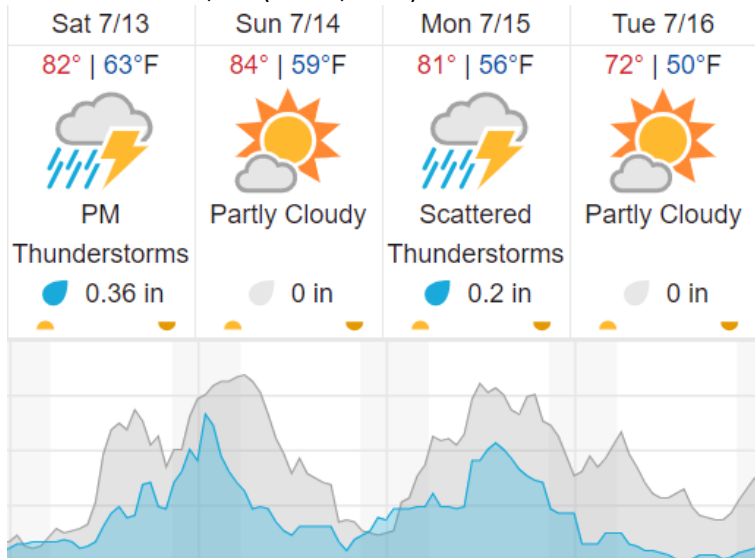
Green: 0% (0/6)

Yellow: 83% (5/6)

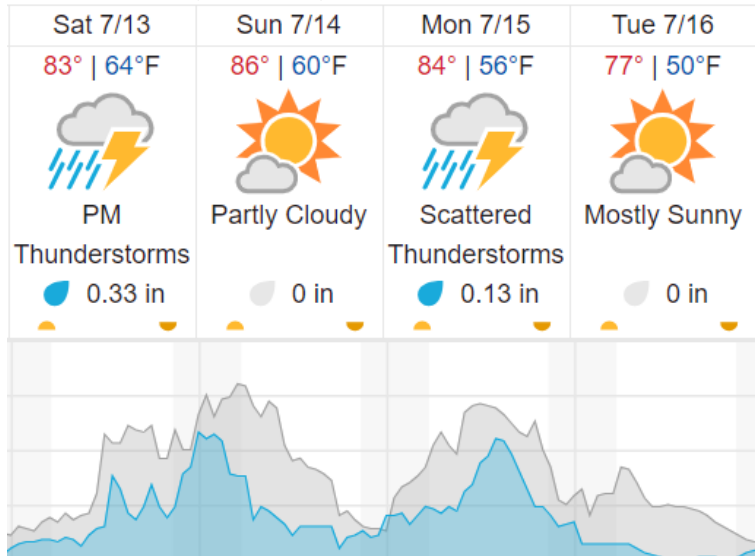
Red: 17% (1/6)

Weather Forecast

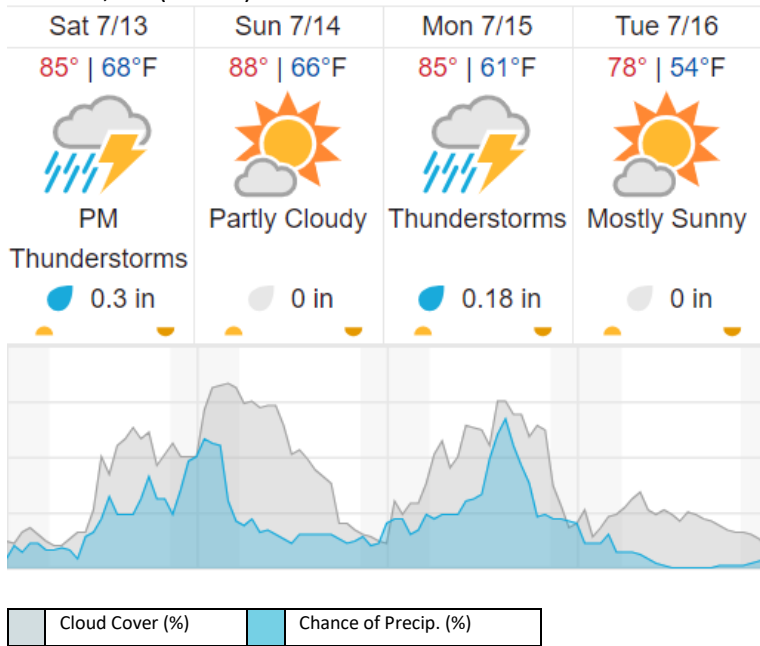
Boulder Junction, WI (UNDE, LIRO)



Tomahawk, WI (STEI-TREE)



Wausau, WI (KAUW)



source: wunderground.com

Flight Collection Plan for 13 July 2024

Flyority 1

Collection Area: UNDERC (UNDE)- **if Green lines 2-17, 23-29**

Flight Plan Name: D05_UNDE_C1_P1_v2_Q780

On-station Time: 1420 UTC / 0920 L

Flyority 2

Collection Area: Steigerwaldt Land Services - Treehaven (STEI-TREE), P1 Box- **if Green within solar angle lines 11-14**

Flight Plan Name: D05_STEI_TREE_R1_P1_P2_v3_Q780

On-station Time: 1420 UTC / 0920 L

Flyority 3

Collection Area: Chequamegon-Nicolet National Forest (CHEQ)- **if Green**

Flight Plan Name: D05_CHEQ_R2_P1_v3_Q780

On-station Time: 1420 UTC / 0920 L

Flyority 4

Collection Area: Steigerwaldt Land Services - Treehaven (STEI-TREE), P2 Box- **if Green**

Flight Plan Name: D05_STEI_TREE_R1_P1_P2_v3_Q780

On-station Time: 1420 UTC / 0920 L

Flyority 5

Collection Area: Little Rock Lake (LIRO)- **if Green**

Flight Plan Name: D05_LIRO_A1_P2_v2_Q780

On-station Time: 1420 UTC / 0920 L

Flight Crew: Cameron (Lidar), Matt (NIS)