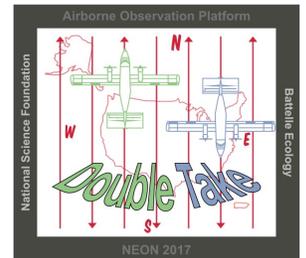




March 22, 2018 Payload 3 Daily Flight Report



Date: 03-22-18

Flight Campaign ID: 2018_P3C1

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

Domain: 10

Sites Flown: H10C (NEON HQ Lidar Validation), V10C (Boulder City South)

Days left in Domain: 11

Report Author: Mitch Haynes

Flight Crew: Mitch Haynes, Matt DeVoe, Abe Morrison,
Heather Rogers

Ground/GPS Crew: Mike Wussow, Abe Morrison

Pilots: Stephen Brawdgers, Mike Francis

Additional Personnel: None

GPS Instruments: GPS01-FBO_KBDU

Flight Hours: 0:55, 1:18

Hours until aircraft maintenance: 116.33

Summary: With non-green conditions present, today became a full-fledged training day, with local training flights around Boulder being completed while also testing several ongoing fault issues. Mitch is now fully certified to operate Payload 3.

New Faults:

Flight Disks – On Disk Set 3, previous flight data on Midas1 disk could not be deleted due to “folder permission errors”. Due to the current shortage of flight disks, disk set 3 was used for today’s second flight, which two flights worth of data now recorded on Midas1

Flight Plans – Laser settings on new V10C flight plan provided for today’s second flight were wack (see screenshot of lidar returns). Crew reverted to older V10C flight plan.

Ongoing Faults:

Flight Plans – All 2018 Riegl flight plan kml’s do not load markers onto DCC software. Newly created flight plan kmls did not resolve the issue.

Lidar – Error message on RiAcquire “LASER_HEARTBEAT_TIMEOUT_EXPIRED” and corresponding visible gaps in swath happened for second day in a row. Believed to be related to lost connection with scanner.

Flight Disks - For the second day in a row, MIDAS disks from Disk Set 2 were not recognized by MIDAS computer during system startup.

Lidar – Remote Desktop to RiAcquire lost connection several times in-flight, again. Issue is believed to be isolated to the Ethernet connection. New Ethernet cable attached, but same issues occurred. FltOps is actively exploring the possibility on reattaching the external monitors.

Spectrometer – Shutter on NIS not closed at request of the lab manager due to a known malfunction

Resolved Faults:

Flight Plans – Lidar swath overlap issue appears resolved with proper DEMs in place. Same lines from V10C where gaps were evident during yesterday’s flight provided ample swath coverage today.

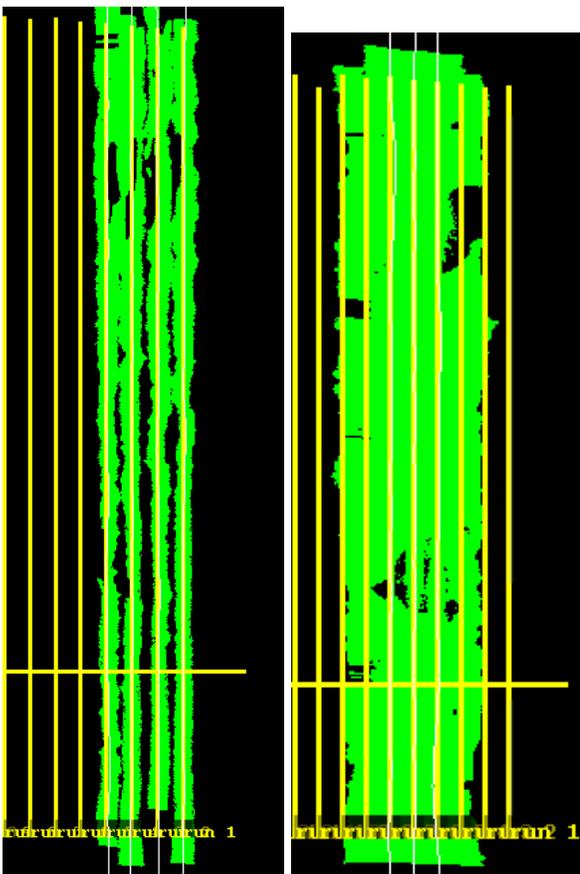
Other Issues & Concerns: None

Comments:

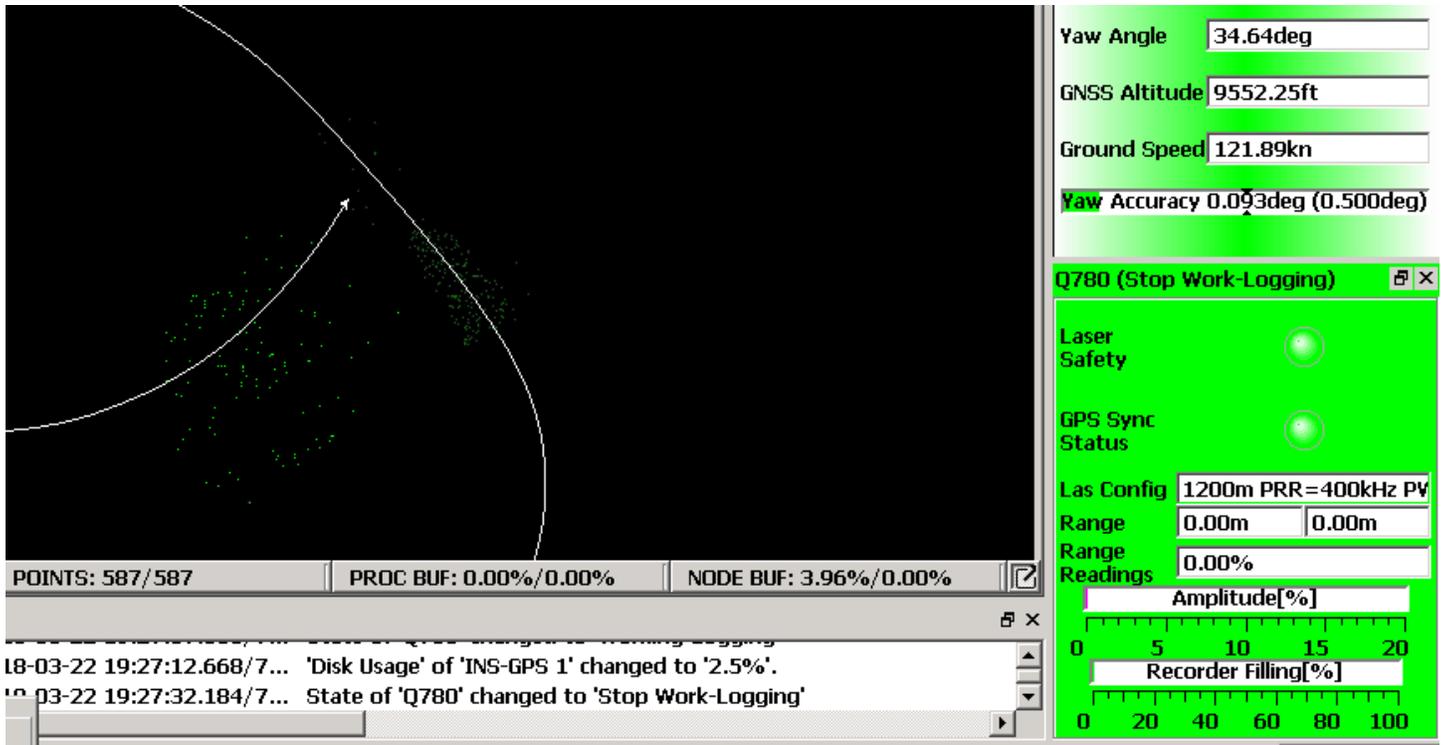
- Mitch completed his 2nd and 3rd Lidar flights and is now re-certified
- Abe and Heather completed NIS re-certification flights
- Mike completed ground duty certification
- With snow in the forecast for early next week and the Otter scheduled to depart for D17 on Friday, 3/30, FltOps will look to conduct weekend flights to take advantage of better weather.
- Decimated LAS File Placement: Flight plans were chosen to investigate the file structure and placement of the decimated LAS files on the Midas2 disks.
 - On the morning flight, an older V10C plan was used with the default directory folder on the C drive. The directory was manually changed in flight to the D Drive. The LAS files still appeared post flight on the C drive, and were manually copied over to the V10C directory on the D Drive.
 - After 3 lines of the V10C plan were flown, 1 line of the new H10C flight plan was flown, where the default directory was set ahead of time in the flight planning process to the D drive. These LAS files appeared in a new "RiAcquire" folder on the D-Drive, where only the 03_Riegl_Raw and 06_Riegl_Proc folders were created within.
 - On the second flight, the new V10C RiAcquire project file was used (with proper D Drive destination pre-set). However due to wacky lidar returns, we reverted back to the older V10C flight plan (where the C-Drive was the default directory). This time, decimated LAS files appeared to save themselves without prompting to the D-Drive...

Flight Screenshots:

V10C: Notice the difference in swath from yesterday (left) to this morning (right)



Lidar parameters off in new V10C flight plan



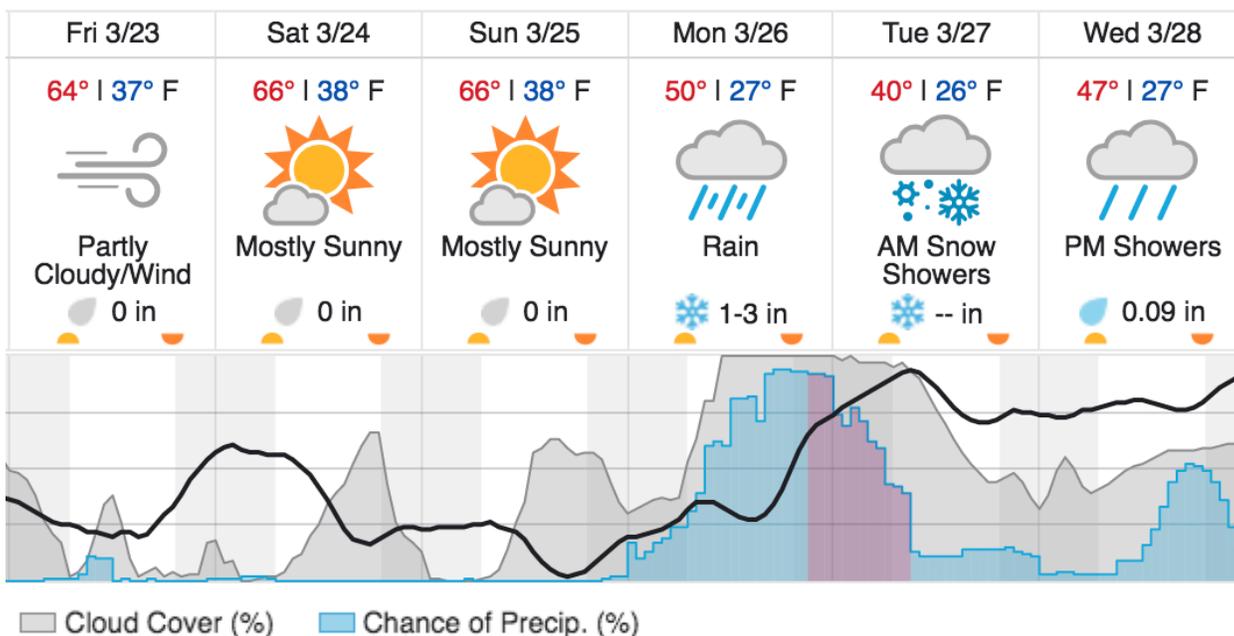
Daily Domain Coverage: N/A

Cumulative Domain Coverage:

Calibration Flights Completed: Nominal Runway Survey, NEON HQ Lidar Validation

Not Complete: Greeley Boresight, Wiggle Timing Test, Table Mountain Radiometric, NIS Offset Flight

Weather Forecast:



Flight Collection Plan for 23 March 2018

Flyority 1

Collection Area: Greeley Boresight Calibration

Flight Plan Name: D10_B10D_Boresight_Apx_Q780.rpp

On Station Time: 1550 Local / 0950 UTC (30°)

Flyority 2

Collection Area: Table Mountain Radiometric Calibration

Flight Plan Name: D10_R10C_Rad_Cal_TMBT_v1_Q780.rpp

On Station Time: 1740 Local / 1140 UTC (45°)

Flyority 3

Collection Area: Wiggle Timing Test at Boulder Airport

Flight Plan Name: D10_W10C_Wiggle_Test_v5_Q780.rpp

On Station Time: 1550 Local / 0950 UTC (30°)

Flyority 4

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10B_NIS_Offset_v2_Q780.rpp

On Station Time: 1700 Local / 1100 UTC (40°)

Flight 1 - Cam (Lidar Trainer), Mike (Lidar Observer), Matt (NIS re-cert), Mitch (Ground re-cert), Abe (Ground certifier)

Flight 2- Mike (Lidar Trainee), Mitch (Lidar Trainer), Cam (NIS re-cert), Matt (Ground re-cert), John (Ground certifier)

Flight 3- Mike (Lidar Cert), Matt (Lidar Trainer), John (NIS re-cert), Cam (Ground re-cert), Abe (Ground certifier)

Flight Collection Plan for 24 March 2018

Flyorities – Same as previous day

Crew: Cameron Chapman, Ivana Vu, Mitch Haynes, Robb Walker