



Payload 1 Daily Flight Report



Date: 2022-11-02

Flight Campaign ID: P1C1

Airport, FBO ID, City: Rafeal Hernandez International Airport (TJBQ) - Aguadilla, Puerto Rico

Aircraft: N331AR

Domain: 04 (Atlantic Neotropical)

Sites Flown: GUAN (Guanica Forest), LAJA (Lajas Experimental Station), N04C (D04 Nominal Runway)

Days left in Domain: 10

Report Author: Mitch

Lidar Operators: Mitch

Spectrometer Operators: Elissa

Pilots: Magnus, Justin

Flight Hours: 02:56

Hours until maintenance: 63.25

GPS Instruments: 04 - FBO_TJBQ, C-PRGY, C-PRMI, U-AGPR

Summary

Clearest morning yet in Puerto Rico allowed for our first green line science collects in D04. Five lines over Guanica were collected pre-40° solar angle but within the 35° solar angle (a heavier haze prevented these lines from being labeled as green). After completing GUAN and transiting towards Lajas, the haze lightened up considerably allowing 7 green lines to be collected under Green, clear sky conditions. As diurnal cumulus clouds started forming, another 7 lines were collected under non-green conditions before we were forced to end collect and head back to Aguadilla. The Nominal Runway was collected over the runway before landing.

Concerns

A NOTAM was released announcing a couple days of upcoming runway closures for maintenance. This has the potential to disrupt flight operations. Plans on how to mitigate those disruptions are being discussed.

Comments

- Battery in GPS 04 was swapped out pre-flight, prior to start of POS.
- A tour was conducted this afternoon with Professor Angel Acosta-Colon of the University of Puerto Rico Arecibo.

Daily Coverage

Estimated Cloud Cover Key

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

D04 | GUAN

Line #	2	3	4	5	6
Lidar	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓
Cloud Cover					

Total number of lines flown: 5

D04 | LAJA

Line #	1	2	3	4	5	6	7	14	15	16	17	18	19	20
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Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover														

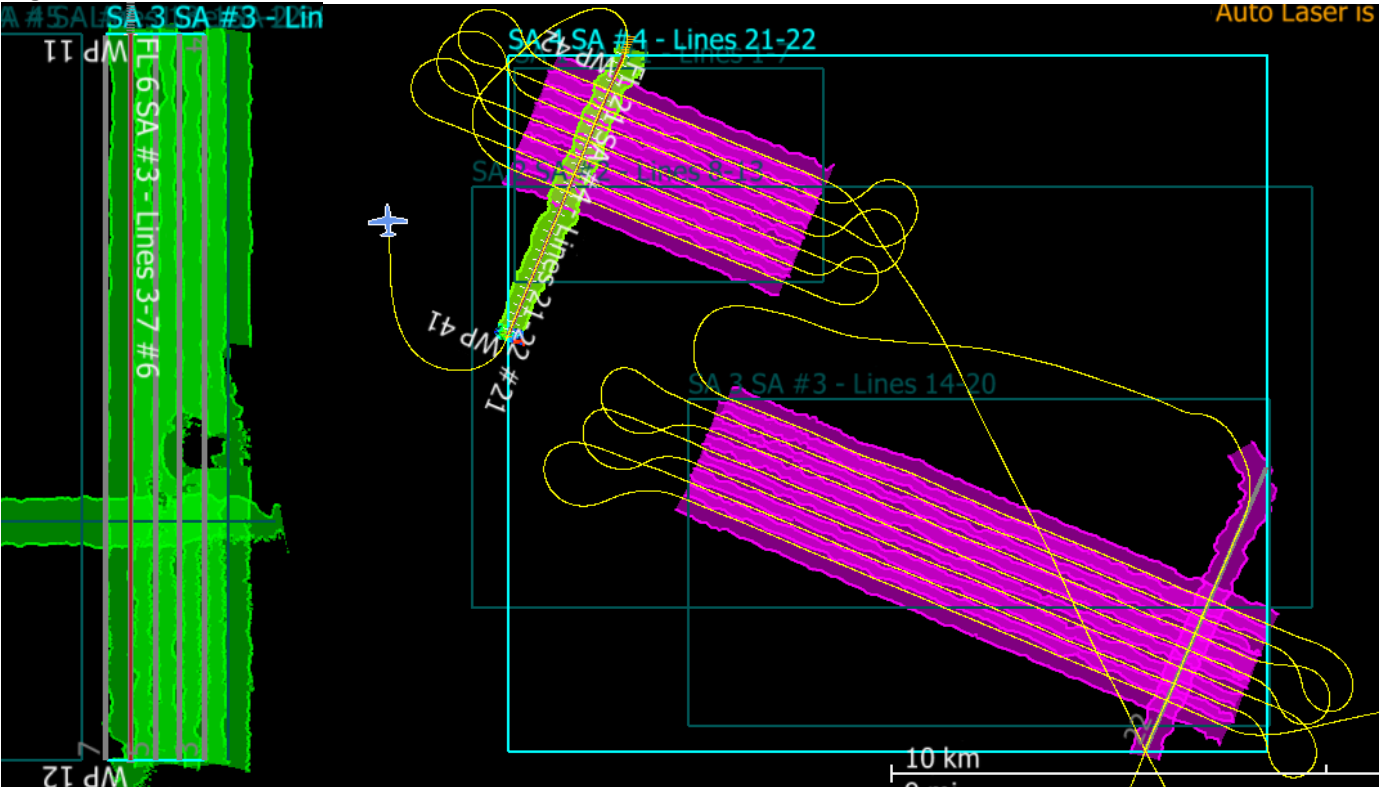
Total number of lines flown: 14

D04|N04C

Line #	1	2
Lidar	✓	✓
Spectrometer	✓	✓
Camera	✓	✓
Cloud Cover		

Total number of lines flown: 2

Flight Screenshots

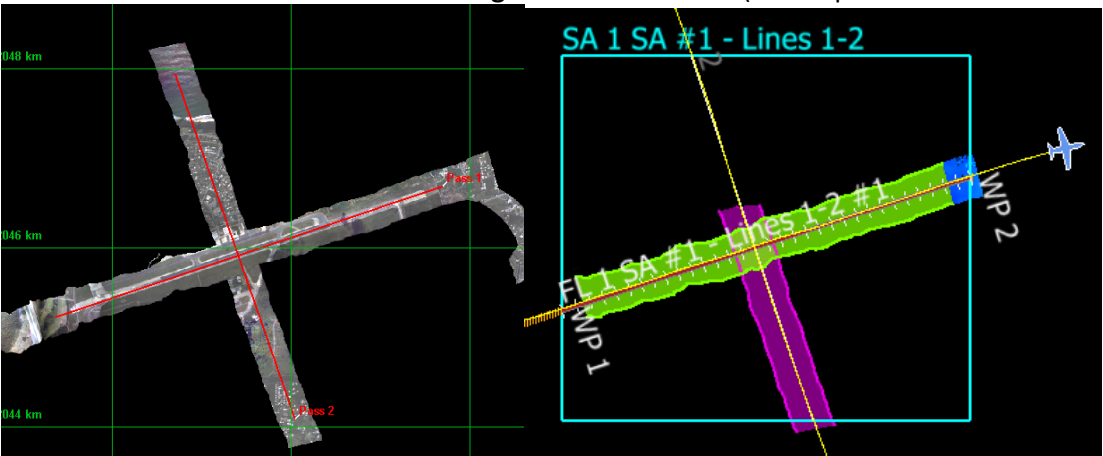


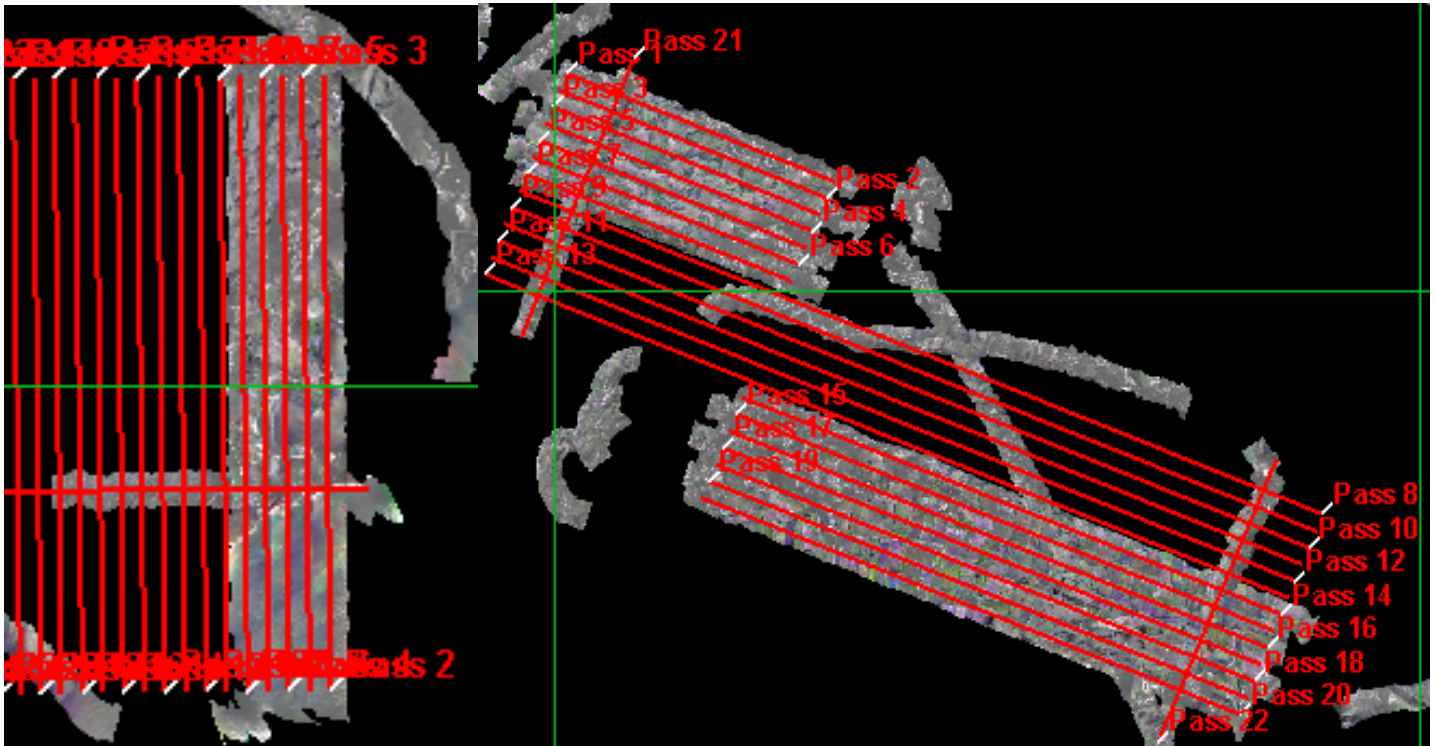
Above Left : Lidar at GUAN

Above Right: Lidar at LAJA

Below Left: NIS over N04C

Below Right: Lidar over N04C (clouds prevented collect of the full perpendicular line)





Above Left: NIS over GUAN

Above Right: NIS over LAJA

Pictures



Above: Cloud free conditions over Lajas. Note the balloon in the top center of the photo. Part of the Teathered Aerostat Radar System, the restricted airspace around the balloon prevents AOP from flying directly over the NEON tower at LAJA.



Above: The NEON crew got to meet with Prof Angel Acosta-Colon (UPRA), talk a bit about the NEON project and AOP, as well learn about his research and use of Lidar while studying karst landscapes.

Cumulative Domain Coverage

D04|CUPE (Rio Cupeyes)

1	2	3	4	5	6	7	8	9	10
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Flown: 100% (10/10)

Green: 0% (0/10)

Yellow: 40% (4/10)

Red: 60% (6/10)

D04|GUAN (Guanica Forest)

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						

Flown: 100% (34/34)

Green: 0% (0/34)

Yellow: 91% (31/34)

Red: 9% (3/34)

D04|GUIL (Rio Guilarte)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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Flown: 100% (15/15)

Green: 0% (0/15)

Yellow: 0% (0/15)

Red: 100% (15/15)

D04|LAJA (Lajas Experimental Station)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22																		

Flown: 73% (16/22)

Green: 36% (8/22)

Yellow: 23% (5/22)

Red: 14% (3/22)

D04 | N04C (D04 Nominal Runway)

1 2

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

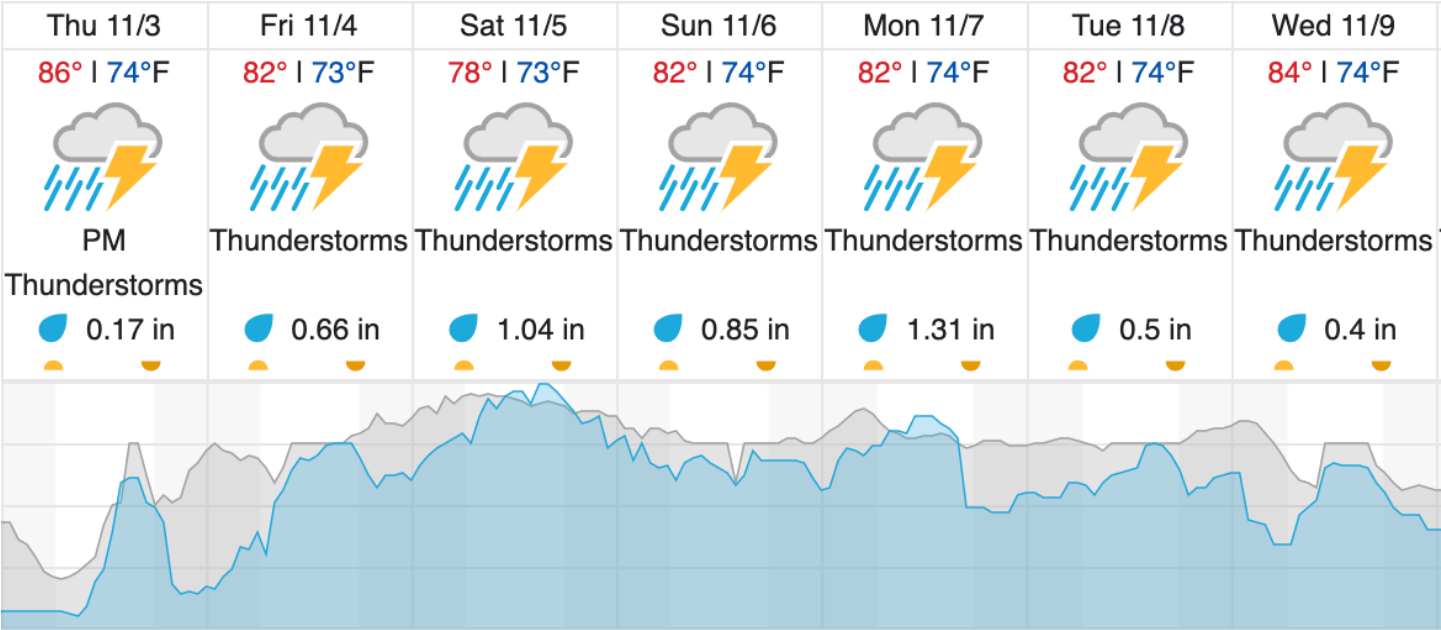
D04 | R04A ()

1 2 3 4 5

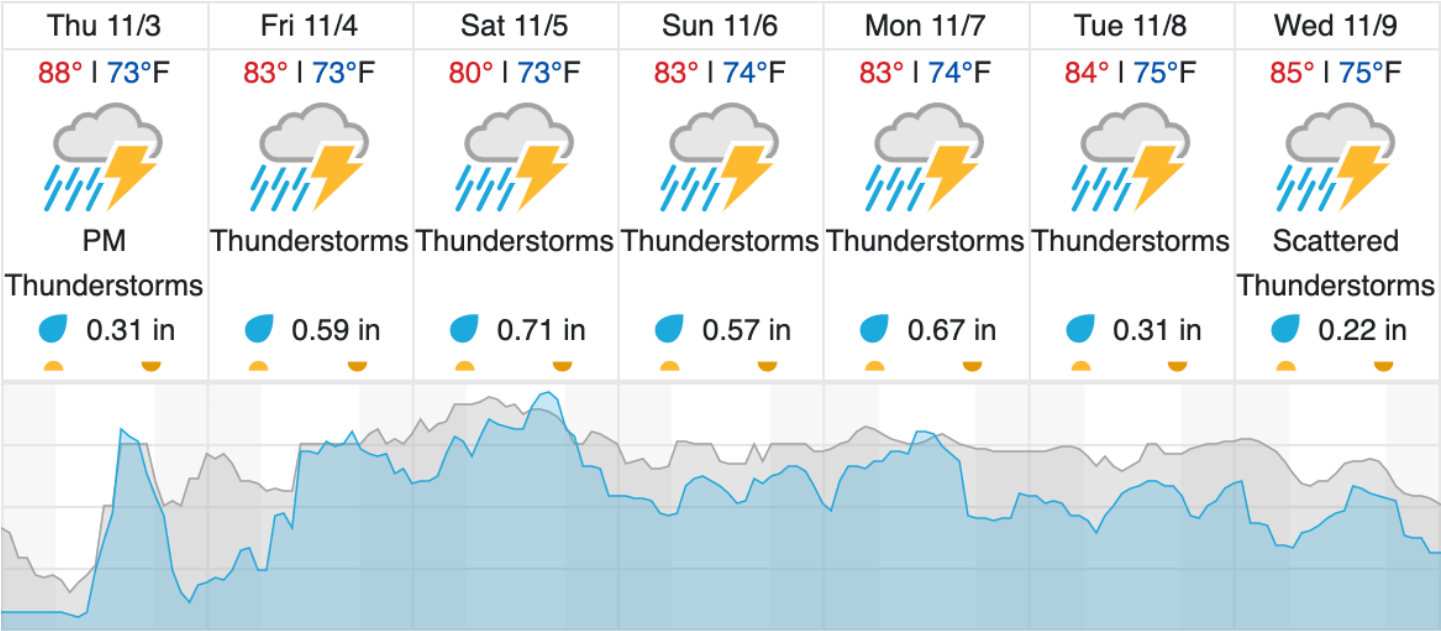
Flown: 100% (5/5)
Green: 100% (5/5)
Yellow: 0% (0/5)
Red: 0% (0/5)

Weather Forecast

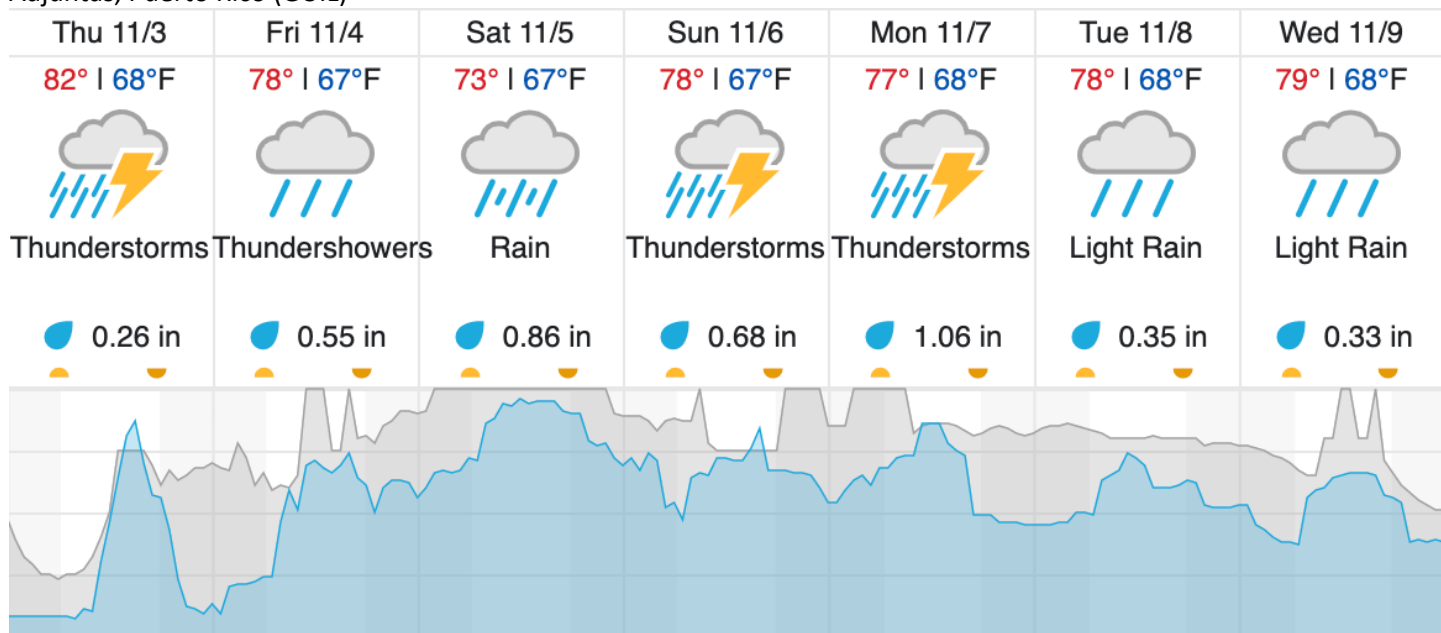
Guayanilla, Puerto Rico (GUAN)



San German, Puerto Rico (LAJA & CUPE)



Adjuntas, Puerto Rico (GUIL)



	Cloud Cover (%)		Chance of Precip. (%)
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source: wunderground.com

Flight Collection Plan for 3 November 2022

Flyority 1

Collection Area: Guanica Forest (GUAN) ** If "Green" sky conditions**

Flight Plan Name: D04_GUAN_C1_P1_v1_PRM.xml

On-station Time: 1340 UTC / 0940 L

Flyority 2

Collection Area: Lajas Experimental Station (LAJA)

Flight Plan Name: D04_LAJA_R1_P1_v6_PRM.xml

On-station Time: 1340 UTC / 0940 L

Flyority 3

Collection Area: Rio Cupeyes (CUPE) ** If "Green" sky conditions**

Flight Plan Name: D04_CUPE_A1_P1_v1_PRM.xml

On-station Time: 1340 UTC / 0940 L

Flyority 4

Collection Area: Rio Guilarte (GUIL) ** If "Green" sky conditions**

Flight Plan Name: D04_GUIL_A2_P1_v2_PRM.xml

On-station Time: 1340 UTC / 0940 L

Crew: Elissa (Lidar), Mitch (NIS)