



August 28, 2018 Payload 3 Daily Flight Report



Date: 2018-08-28

Flight Campaign ID: 2018_P3C1

Airport, FBO ID, City: Tucson International Airport (KTUS) - Tucson, AZ

Domain: 14

Sites Flown: SRER_P1 (Santa Rita Experimental Range Priority 1), SRER_P2 (Santa Rita Experimental Range Priority 2)

Days left in Domain: 4

Report Author: Mitch Haynes

Flight Crew: Mitch Haynes, Robb Walker

Flight Hours: 2:13 + 2:40 = 4:53

Ground/GPS: Abe Morrison

Hours until maintenance: 101.07

Pilots: Stephen Brawders, Hans Germann

Additional Personnel:

GPS Instruments: 11 - FBO_KTUS, 12 - SRER

Summary

Frustrating day for flight operations here in D14. Expecting clear skies over Santa Rita today, high cirrus clouds dominated the sky, preventing any green data collection. During the first flight, camera/navigation issues forced an early landing to troubleshoot before taking off again for a second flight. Initial coverage over the priority one and two boxes of Santa Rita is now complete.

Concerns

- High tarmac temperatures in Tucson suspect in causing Cryocooler 1 temperature to heat out of spec by 1°K. This has now happened 3 flights in a row. Temperature returns to spec a few minutes after takeoff and has not caused any delays in collection so far.
- PhaseOne Camera having trouble disconnecting from and then reconnecting from Tracker/Snapshot interface, which in turn causes a "BUFFER FULL" error and automatic abortion of the line, for both the camera, lidar, and navigation. Outside of disabling the camera and collecting just lidar with snapshot running only navigation, the only solution found was a full system reboot, which was conducted on the ground following the first flight.

Comments

- In an effort to be more efficient with the limited remaining time in the domain, two ad hoc lines were flown during the second flight to cover lidar gaps from the first flight during the camera/navigation issue. These lines were documented in the flight logs. Team will look to the Scientist-on-duty once initial QAQC for these two flights are complete to see if lines were sufficient or further re-fly of these lines are needed.
- Discussions of possibly extending in D14 for several days in attempt to better collection efforts are occurring

Daily Coverage

D14 SRER_P1	Line	SpecG	SpecY	SpecR	NIS	Lidar	Camera	Cumulative
	1				✓	✓	×	NL
	16				✓	✓	×	NL
	17				✓	✓	×	NL
	18				✓	✓	×	NL
	19				✓	✓	×	NL
	20				✓	✓	×	NL
	21				✓	✓	×	NL

	22				✓	✓	×	NL
	23				✓	✓	×	NL
	24				✓	✓	×	NL
	25				✓	✓	✓	NLC
	26				✓	✓	✓	NLC
	27				✓	✓	✓	NLC
	1				✓	✓	✓	NLC
	28				✓	✓	✓	NLC
	29				✓	✓	✓	NLC
	30				✓	✓	✓	NLC
	31				✓	✓	✓	NLC
	32				✓	✓	✓	NLC
	33				✓	✓	✓	NLC
	34				✓	✓	✓	NLC
	35				✓	✓	✓	NLC
	36				✓	✓	✓	NLC
	37				✓	✓	✓	NLC
	38				✓	✓	✓	NLC
	39				✓	✓	✓	NLC
	40				✓	✓	✓	NLC
Flown:	27							
D14 SRER_P2	Line	SpecG	SpecY	SpecR	NIS	Lidar	Camera	Cumulative
	13				✓	✓	✓	NLC
	14				✓	✓	✓	NLC
	15				✓	✓	✓	NLC
	16				✓	✓	✓	NLC
	1				✓	✓	✓	NLC
Flown:	5							

Cumulative Domain Coverage

JORN_P1

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: 0% (0/34)
 Green: 0% (0/34)
 Yellow: 0% (0/34)
 Red: 0% (0/34)

JORN_P2

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

Flown: 0% (0/21)
 Green: 0% (0/21)
 Yellow: 0% (0/21)
 Red: 0% (0/21)

SRER_P1

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

Flown: 100% (40/40)
 Green: 35% (14/40)
 Yellow: 35% (14/40)
 Red: 35% (14/40)

SRER_P2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
21	22	23	24																	

Flown: 100% (24/24)

Green: 0% (0/24)

Yellow: 25% (6/24)

Red: 79% (19/24)

SRER_P3

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															

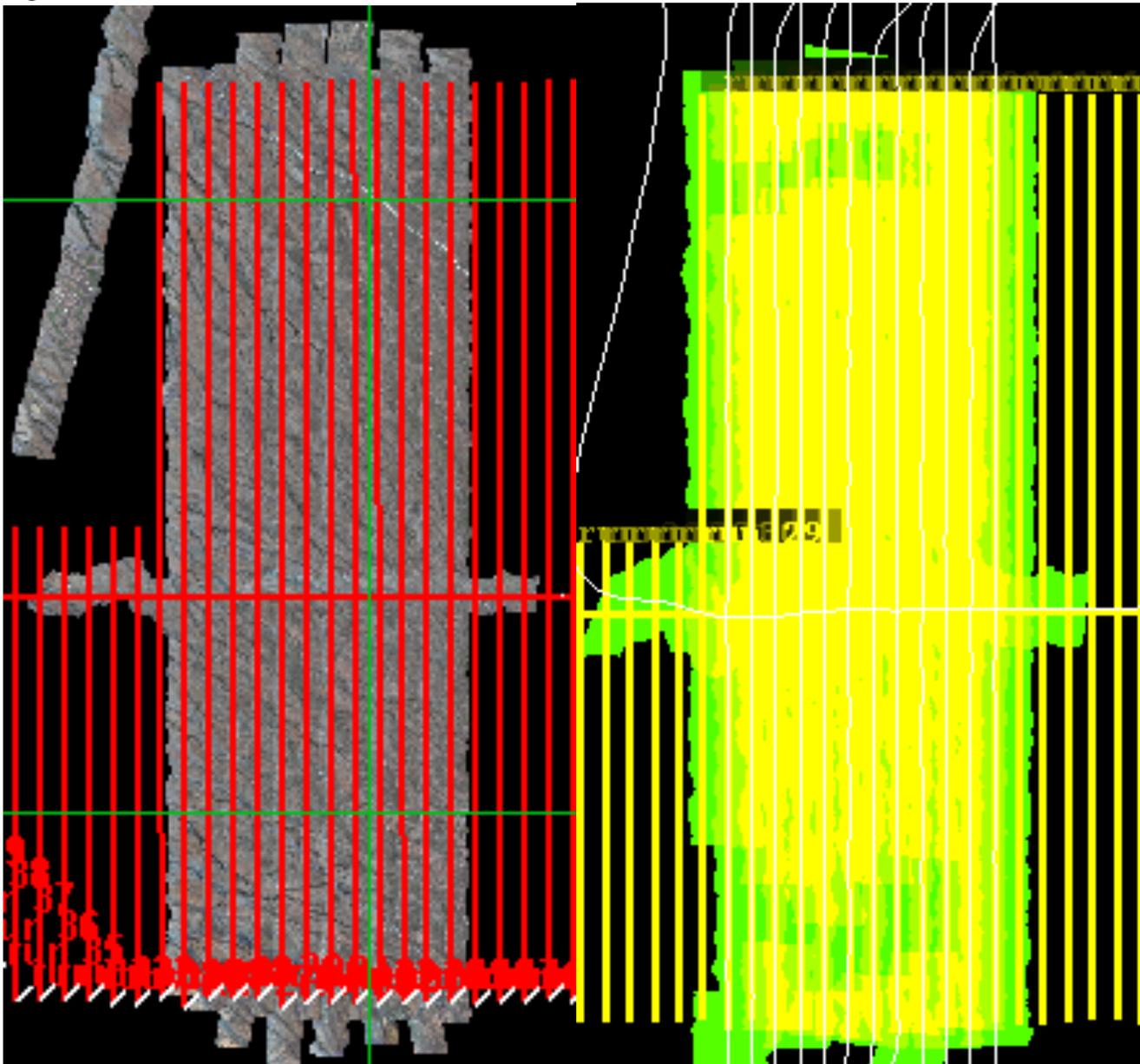
Flown: 0% (0/26)

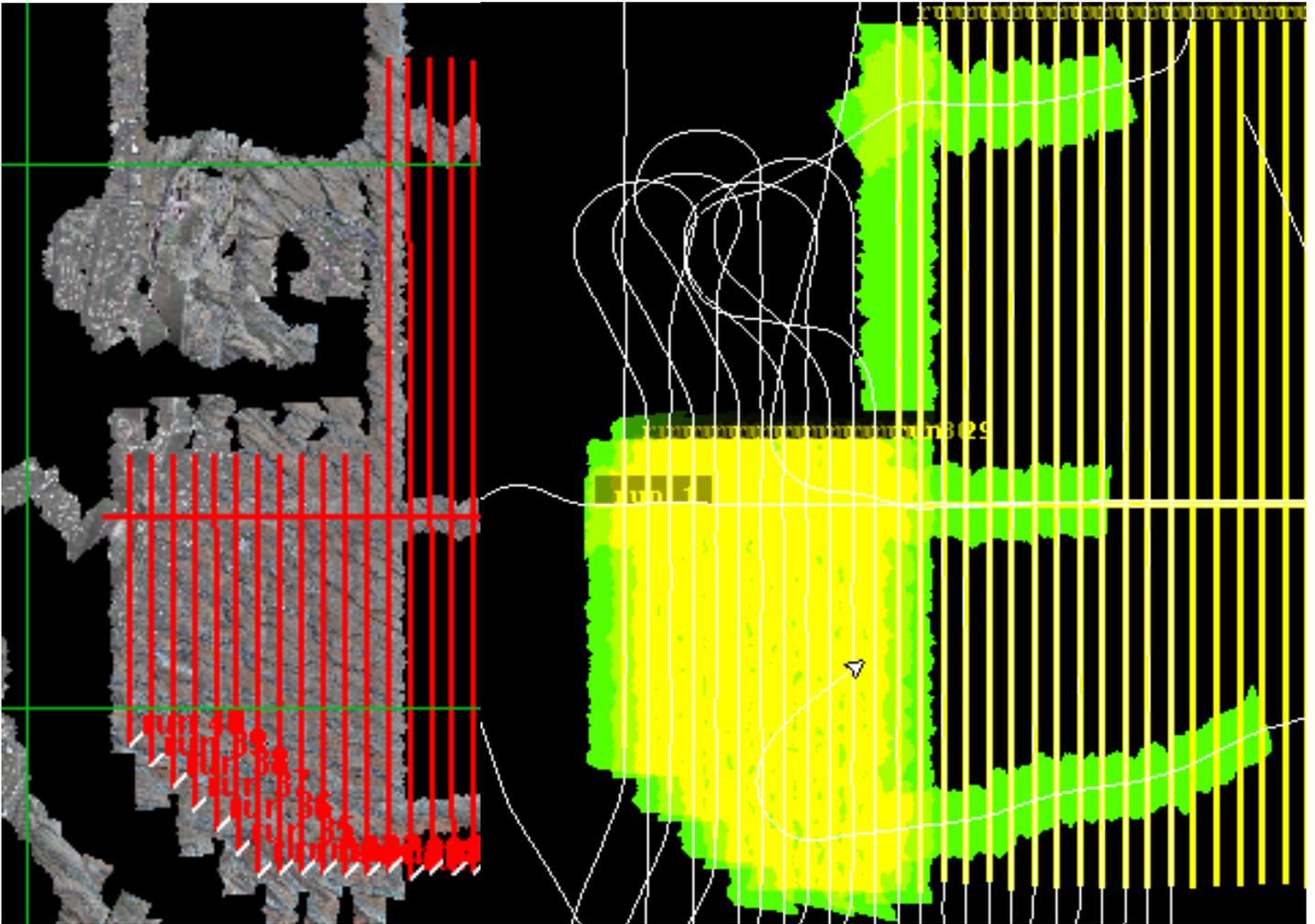
Green: 0% (0/26)

Yellow: 0% (0/26)

Red: 0% (0/26)

Flight Screenshots





Pictures

Below: NEON site at Santa Rita from above



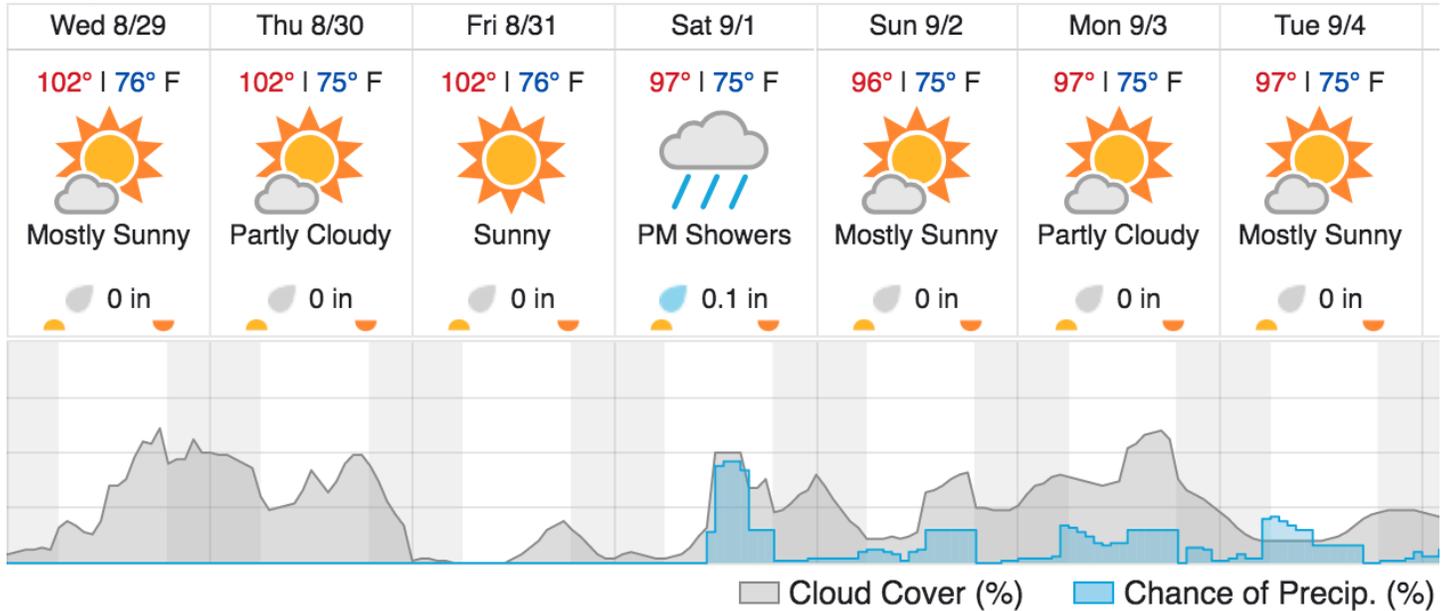


Above: Looking up towards Madero Canyon & the Santa Rita Mountains Below: Mt Wrightson (left), Mt Hopkins (right)

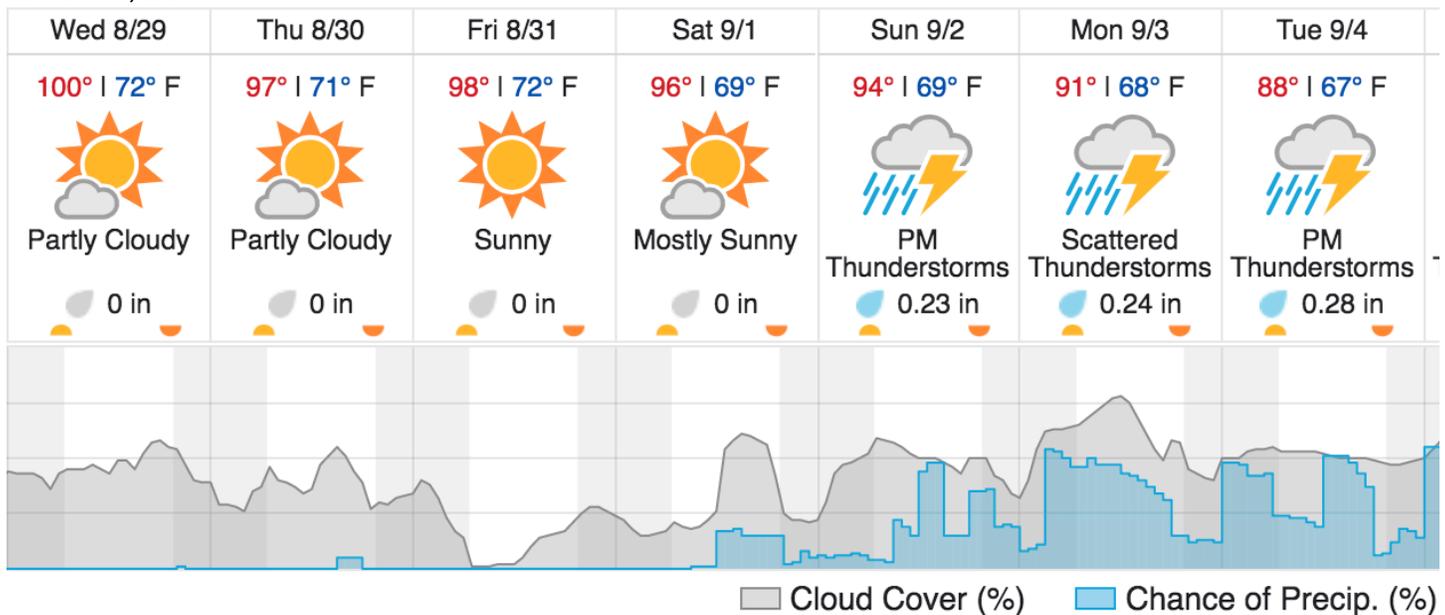


Weather Forecast

Tucson, AZ



Las Cruces, NM



Flight Collection Plan for 29 August 2018

Flyority 1 (Flight Priority 1): **If Green Sky Conditions**

Collection Area: Santa Rita Experimental Range (SRER) – Priority 1 Flight Box

Flight Plan Name: D14_SRER_C1_P1_v4_Q780

On-Station Time: 16:10 UTC / 09:10 L

Flyority 2 (Flight Priority 2): **If Green Sky Conditions**

Collection Area: Santa Rita Experimental Range (SRER) – Priority 2 Flight Box

Flight Plan Name: D14_SRER_C1_P2_v4_Q780

On-Station Time: 16:10 UTC / 09:10 L

Flyority 3 (Flight Priority 3):

Collection Area: Santa Rita Experimental Range (SRER) – Priority 3 Flight Box

Flight Plan Name: D14_SRER_C1_P3_v4_Q780

On-Station Time: 16:10 UTC / 09:10 L

Flyority 4 (Flight Priority 4):

Collection Area: Jornada (JORN) – Priority 1 Flight Box

Flight Plan Name: D14_JORN_R1_P1_v3_Q780

On-Station Time: 16:00 UTC / 10:00 L

Flyority 5 (Flight Priority 5):

Collection Area: Jornada (JORN) – Priority 2 Flight Box

Flight Plan Name: D14_JORN_R1_P2_v1_Q780

On-Station Time: 16:00 UTC / 10:00 L

Crew: Abe Morrison (Lidar), Mitch Haynes (NIS), Robb Walker (Ground)

On-Going Issues

Fault: Camera	Open Date: 8/28/2018
20180828 Phase One Camera having trouble disconnecting from and then reconnecting from Tracker/Snapshot interface, which in turn causes a "BUFFER FULL" error and automatic abortion of the line. Outside of disabling the camera and collecting just lidar with snapshot running only navigation, the only solution found was a full system reboot, which was conducted on the ground following the first flight.	