



Payload 1 Daily Flight Report



Date: 2026-06-23

Flight Campaign ID: P1C1

Airport, FBO ID, City: Bismarck Municipal Airport (KBIS) - Bismarck, ND

Aircraft: N537AR

Domain: 09 (Northern Plains)

Sites Flown: None

Days left in Domain: 10

Report Author: Mike

Lidar Operators: Mike

Spectrometer Operators: John

Pilots: Jeff, Manning

Flight Hours: 01:07

Hours until maintenance: 83.15

GPS Instruments: None

Summary

An attempt was made to green up four lines at NOGP but the window of opportunity was too brief, and cumulus clouds developed below our survey altitude before collections could be made. We transitioned to WOOD/DCFS which was looking flyable at takeoff, but low cumulus thwarted us there as well. While no science collections were made, the mission served as a verification flight for the recent BSE/UPDU and waveform issues.

Concerns

None

Comments

-This was the first flight after the terminal swap was made in the BSE for powering the UPDU, which powers the lidar system. Everything worked normally and no issues were had.

-On the prior NOGP flight, the waveform readout was not displaying a return and was showing a red box for the GPS indicator. This occurred again today during test fires. The digitizer was power cycled and after reconnection, the message: 'PPS locking procedure completed successfully' was seen. The red GPS box no longer appeared in the waveform display, and a return signal was registering as desired. It appears a PPS lock is not occurring on startup.

Flight Screenshots

```
System Type: IWR-4Notification Mo 21:00:26.963 IWR4      122 INFO Ready to accept request
System Firmware: 1.1Notification Mo 21:00:27.219 IWR4      0 INFO NTP NTP INITIAL_SYNC
System Serial Number: 0Notification Mo 21:02:01.234 IWR4      0 INFO NTP NTP FULL_SYNC
Notification Mo 21:02:04.499 DIGITIZER    326 INFO ADQ7 PPS locking procedure completed successfully
Notification Mo 21:05:36.843 DIGITIZER    307 INFO Return length is out of range, use max value
Notification 16:23:59.000 SN162 Laser has been Enabled
Notification 16:23:59.000 SN242 Start Data Acquisition
```

Above: Message log indicating PPS lock acquired.



Above: Top right showing no waveform registering and GPS highlighted in red while laser is active. After cycling power on digitizer, waveform readout appeared and GPS was highlighted green after PPS lock acquired.

Pictures



Scattered cumulus below our survey altitude near WOOD/DCFS.

Cumulative Domain Coverage

D09 | NOGP (Northern Great Plains)

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% (26/26)

Green: 85% (22/26)

Yellow: 15% (4/26)

Red: 0% (0/26)

* Flown within 35deg solar angle

D09 | WOOD_DCFS (Woodworth and Dakota Coteau Field School)

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						

Flown: 26% (14/54)

Green: 0% (0/54)

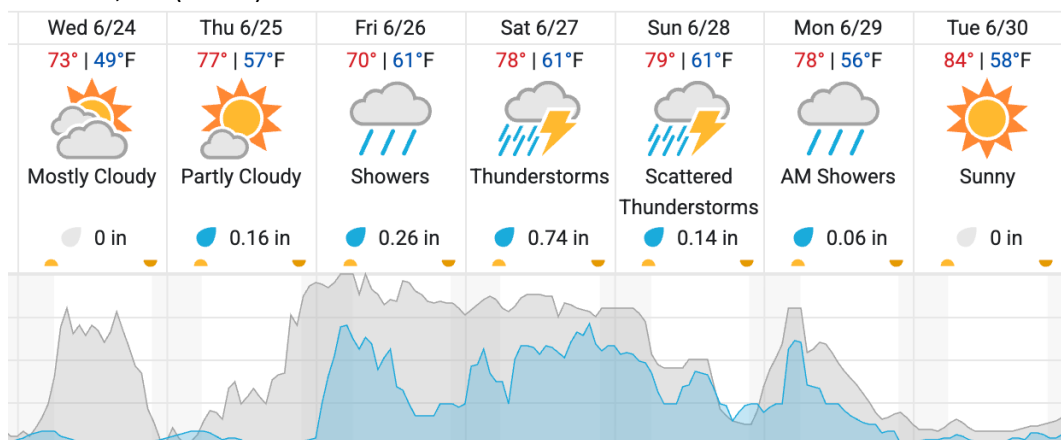
Yellow: 7% (4/54)

Red: 17% (9/54)

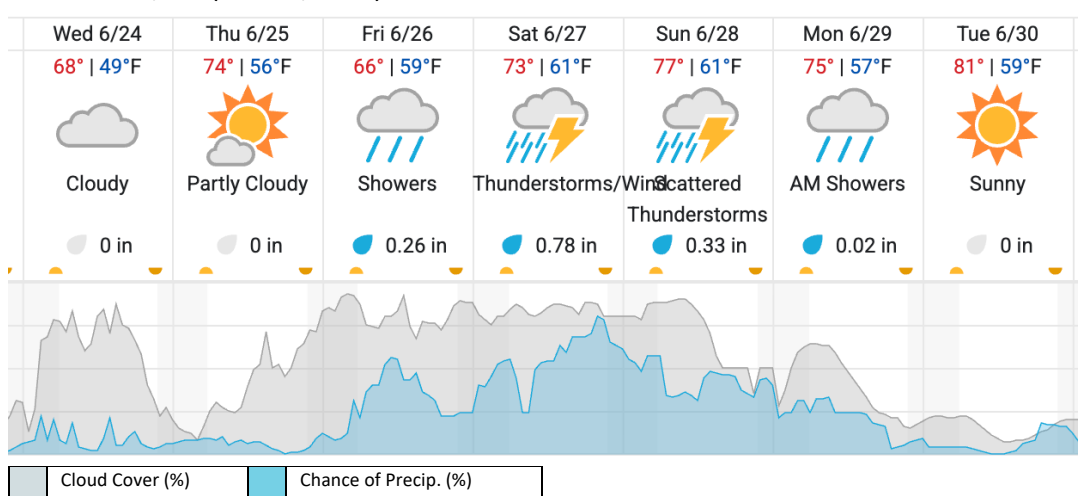
* Flown within 35deg solar angle

Weather Forecast

Bismarck, ND (NOGP)



Woodworth, ND (WOOD/DCFS)



source: wunderground.com

Flight Collection Plan for 24 June 2026

Flyority 1

Site: Northern Great Plains (NOGP) *lines 23-26 if Green*

Flight Plan Name: D09_NOGP_R2_P1_v4_PRM.xml

Solar Angle Time: 09:40L/14:40UTC

Flyority 2

Site: Woodworth (WOOD) – Dakota Coteau Field School (DCFS) *lines 3-4, 14-18, 24-54*

Flight Plan Name: D09_WOOD_DCFS_C1_P1_v6_PRM.xml

Solar Angle Time: 09:30L/14:30UTC

Crew: John (Lidar), Mike (NIS), Cam (Ground)