Gulfstream V - JSC 09/06/19

Aircraft: Gulfstream V - JSC (See full schedule)
Flight Number: GV-39
Payload Configuration: OIB
Nav Data Collected: No
Total Flight Time: 6.6 hours
Submitted by: Derek Rutovic on 09/07/19
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	09/06/19 11:01 Z	**Finish:**	09/06/19 17:36 Z
Flight Time:	6.6 hours		
Log Number:	195004	**PI:**	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	2900 miles		

Flight Hour Summary:

	195004
Flight Hours Approved in SOFRS	120
Total Used	83.8
Total Remaining	36.2

195004 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
08/19/19	GV-34	Science	3.8	3.8	116.2	1700
08/21/19	GV-35	Transit	0.6	4.4	115.6	300
09/03/19	GV-36	Transit	6.5	10.9	109.1	2800
09/04/19	GV-37	Science	6.7	17.6	102.4	2900
09/05/19	GV-38	Science	6.7	24.3	95.7	2900
09/06/19	GV-39	Science	6.6	30.9	89.1	2900
09/07/19	GV-40	Science	6.1	37	83	2700
09/09/19	GV-41	Science	6.4	43.4	76.6	2800
09/10/19	GV-42	Science	6.8	50.2	69.8	3000
09/11/19	GV-43	Science	6.9	57.1	62.9	3000
09/12/19	GV-44	Science	7.1	64.2	55.8	3100
09/13/19	GV-45	Science	5.8	70	50	2500
09/14/19	GV-46	Science	7.2	77.2	42.8	3100
09/15/19	GV-47	Transit	6.6	83.8	36.2	2900

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB Summer 2019 - Gulfstream V - JSC 09/06/19 Science Report

Mission: OIB Summer 2019
Mission Summary:

[operational_instruments]
ATM

Narrow Swath ATM
FLIR
CAMBOT
Snow Radar
[/operational_instruments]

OUTLOOK FOR TOMORROW: A weak high pressure system is forming over central Greenland, pushing the clouds out of the center of the ice sheet. This scenario will likely cause clear skies in areas of northeast Greenland where we still have multiple land ice missions. A sea ice mission looks possible on Monday, and the winds from this high pressure system flowing off north east Greenland will hopefully create clearing in the Lincoln Sea where very low latency ICESat-2 RGTs are located.

Mission: Northwest Coastal-A
Priority: Medium

This mission is a fairly new mission, having been flown last in Spring 2018. It begins by hugging the Northwest Coast from Thule all the way down south to near Upernavik and creates a grid pattern where each line moves inland roughly 30-35 km. This was designed to measure the ice sheet at different elevations up to 2000 ft and also at multiple latitudes to the south of Thule. During our summer melt campaign this is advantageous because we can sample different snow and ice surfaces at varying stages of melt and also sample some dirty ice in order to better understand how the ATM returns are scattered in different types of surfaces (saturated snow, melt ponds, bare and dirty ice, etc.)

The weather for today was ideal for flying and were exactly what the forecast models predicted. Light off-shore winds kept our mission flight lines clear. There were some clouds in Thule this morning, but they cleared out at mid-day. During the flight, lots of melting surfaces, melt ponds and melt ponds beginning to refreeze were encountered and measured. Due to these ideal flying conditions, OIB had nearly 100% of data collection. The only issue was with ATM for 10 minutes at the beginning of the mission due to an electronics failure. This issue was resolved quickly and data collection resumed.

AVIRIS also flew a few portions of our OIB lines today in order to measure some ‘dirty ice’ and melt conditions.

This particular mission did not follow any ICESat-2 ground tracks.

Data volumes collected during today’s mission, which consisted of 6.1 hours of data collection:
ATM: 94 Gb
CAMBOT: 231 Gb
FLIR: 13 Gb
Narrow Swath ATM: 138 Gb green
Narrow Swath ATM: 126 Gb IR
VNIR: 49 Gb
SWIR: 72 Gb
Snow Radar: 1.2 Tb

Images:

Figure 1

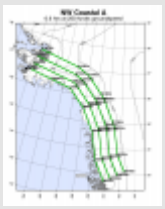

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Figure 2

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Figure 3

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Figure 4

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Figure 5

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Figure 6

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Figure 7

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Submitted by: Linette Boisvert on 09/11/19

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