

Gulfstream V - JSC 10/26/19 - 10/27/19

Aircraft:

[Gulfstream V - JSC](#) ([See full schedule](#))

Flight Number:

GV-55

Payload Configuration:

OIB

Nav Data Collected:

No

Total Flight Time:

10.4 hours

Submitted by:

Derek Rutovic on 10/27/19

Flight Segments:

From:	YMHB	To:	YMHB
Start:	10/26/19 22:24 Z	Finish:	10/27/19 08:45 Z
Flight Time:	10.4 hours		
Log Number:	205003	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	4500 miles		

Flight Hour Summary:

	205003
Flight Hours Approved in SOFRS	350
Total Used	248.4
Total Remaining	101.6

205003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/17/19	GV-48	Science	1.9	1.9	348.1	800
10/17/19	GV-49	Science	3.2	5.1	344.9	1400
10/19/19	GV-50	Transit	8.2	13.3	336.7	3600
10/21/19 - 10/22/19	GV-51	Transit	5.3	18.6	331.4	2300
10/22/19	GV-52	Transit	7	25.6	324.4	3100
10/23/19 - 10/24/19	GV-53	Science	10.2	35.8	314.2	4400
10/24/19 - 10/25/19	GV-54	Science	10.1	45.9	304.1	4400
10/26/19 - 10/27/19	GV-55	Science	10.4	56.3	293.7	4500
10/27/19 - 10/28/19	GV-56	Science	10.2	66.5	283.5	4400
10/28/19 - 10/29/19	GV-57	Science	10.1	76.6	273.4	4400
10/29/19 - 10/30/19	GV-58	Science	10	86.6	263.4	4400
10/31/19 - 11/01/19	GV-59	Science	10.2	96.8	253.2	4400
11/02/19 - 11/03/19	GV-60	Science	10.6	107.4	242.6	4600
11/03/19 - 11/04/19	GV-61	Science	9.6	117	233	4200

11/04/19 - 11/05/19	GV-62	Science	10.3	127.3	222.7	4500
11/05/19 - 11/06/19	GV-63	Science	10.2	137.5	212.5	4400
11/07/19 - 11/08/19	GV-64	Science	10	147.5	202.5	4400
11/08/19 - 11/09/19	GV-65	Science	9.5	157	193	4100
11/09/19 - 11/10/19	GV-66	Science	10.2	167.2	182.8	4400
11/13/19 - 11/14/19	GV-67	Science	10.2	177.4	172.6	4400
11/14/19 - 11/15/19	GV-68	Science	10.4	187.8	162.2	4500
11/16/19 - 11/17/19	GV-69	Science	9.9	197.7	152.3	4300
11/17/19 - 11/18/19	GV-70	Science	9.9	207.6	142.4	4300
11/18/19 - 11/19/19	GV-71	Science	10.3	217.9	132.1	4500
11/19/19 - 11/20/19	GV-72	Science	10.4	228.3	121.7	4500
11/20/19 - 11/21/19	GV-73	Science	3.5	231.8	118.2	1500
11/25/19	GV-74	Ferry	5.7	237.5	112.5	2500
11/26/19	GV-75	Ferry	10.9	248.4	101.6	4700

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 - Gulfstream V - JSC 10/27/19 Science Report

Mission:

OIB

Mission Summary:

Flight Report: 10/27/19

OUTLOOK FOR TOMORROW: Conditions are clearing towards the east of Wilkes Land where we flew today, so there are a few options, 2 high priority land ice, and one medium priority sea ice mission over Casey Station which will likely be possible.

Mission: Holmes-Frost 02

Priority: High

IceBridge completed the high priority land ice mission Holmes-Frost 02. This mission was chosen because again katabatic flow off the ice sheet created clear skies in this area, optimal for data collection. The mission was centrally located in this clear region, with clouds to both the east and the west. Although skies were clear we did encounter some mild to moderate turbulence across the lower portions of the three glaciers. The worst turbulence occurred on the eastern side of the Frost Glacier channel because its location in the lee of the katabatics from higher terrain to the east, a set up that generally creates turbulence.

This mission is of importance because it surveys the lower portions of the Holmes, De Haven and Frost Glaciers on a 10-km grid and was specifically designed to supplement earlier airborne measurements collected by the ICECAP Project. Some glaciers in East Antarctica are actually close to a state of mass balance, however Frost glacier is one which is thinning and losing mass. This is likely due the fact that it is grounded well below sea level. Radar and gravity data collected today will provide more knowledge on the bed underneath these glaciers so we can understand why they are retreating here compared to elsewhere.

Moderately strong head winds encountered on the southbound transit leg created some fuel concerns and thus we had to shorten our mission slightly in order to make it back to Hobart with enough fuel. The final survey line of the mission, the IS-2 track, a gravity tie line across the Holmes Glacier ice shelf, was cut from the mission.

During flight, all instruments performed well with 100% data collection. However, before takeoff a bad hard drive was **?as cross as a frog in a sock?** (Aussie slang for sounding angry) and was discovered in the CReSIS server array. The problem was fixed quickly by the CReSIS team and we were able to launch this mission with only a slight 30 minute delay.

ICESat-2 RGT latencies (+/- indicates OIB surveyed after/before ICESat-2):

No IS-2 today due to fuel concerns

Data volumes collected during today's mission, which consisted of 2.8 hours of data collection:

ATM: 46 Gb

CAMBOT: 85 Gb

FLIR: 6 Gb

Narrow Swath ATM: 69 Gb green

Narrow Swath ATM: 65 Gb IR

VNIR: 23 Gb

SWIR: 34 Gb

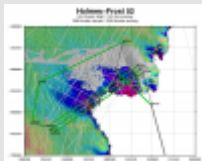
Snow Radar: 626 Gb

MCoRDS: 336 Gb

Gravity: 4.5 Gb

Images:

figure 1



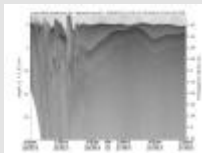
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Figure 2



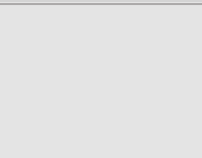
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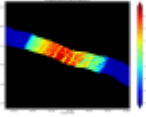
Figure 3



[Read more](#)

Figure 4





[Read more](#)

Submitted by:

Linette Boisvert on 11/06/19

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