

OIB - Gulfstream V - JSC 11/09/19 Science Report

Aircraft:

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

Date:

Saturday, November 9, 2019

Mission:

OIB

Mission Location:

Holmes-Frost 01

Mission Summary:

Mission: Holmes-Frost 01

Priority: Medium

This mission is designed to survey the lower portions of the Holmes, De Haven and Frost Glaciers, their ice shelves, and the upper portion of Porpoise Bay beyond, all on a 10 km grid. This grid is designed to supplement earlier airborne measurements collected by the ICECAP Project. We also fly a tie line, designed along an ICESat-2 track. This grid is supplemented by the grid flown in the companion Holmes-Frost 02 mission.

Light to moderate katabatic flow in the Holmes and Frost catchment areas led to clear skies in this area today. We observed completely clear skies and light winds and little turbulence. Due to fuel concerns, we did not fly the outboard/northerly-most grid line, similar to the compromise for Holmes-Frost 02. All instruments performed well, with 100% successful data collection aside from the skipped last grid line over the course of 2.5 hours of survey time. We performed a ramp pass at 1200 ft AGL on arrival at Hobart.

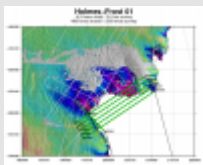
ICESat-2 RGT / latency (\pm indicates OIB surveyed after/before ICESat-2)
0932 / ?15 days

Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Ice edge, and icebergs frozen in sea ice, on the east side of Porpoise Bay; we believe the blue ice areas corresponded to what is usually the lee side of the ice edge and icebergs, given the predominant katabatic winds in this area (John Sonntag / NASA)
3. Exceptionally thick icebergs near Frost Glacier's terminus, whose freeboard ATM measured to be ~110 m, with ~80-m subaerial cliffs (John Sonntag / NASA)
4. ATM T-6 profile of the thick icebergs (Matt Linkswiler / NASA)
5. Finger rafting on the east side of Porpoise Bay (Caitlin Locke / LDEO)

Images:

Map of today's mission



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Ice edge, and icebergs frozen in sea ice, on the east side of Porpoise Bay;



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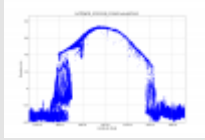
Exceptionally thick icebergs near Frost Glacier's terminus, whose

freeboard ATM measured to be ~110 m, with ~80-m subaerial cliffs



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ATM T-6 profile of the thick icebergs



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Finger rafting on the east side of Porpoise Bay



[Read more](#)

Submitted by:

Joseph MacGregor on 11/10/19

Related Flight Report:

Gulfstream V - JSC 11/08/19 - 11/09/19

Flight Number:

GV-65

Payload Configuration:

OIB

Nav Data Collected:

No

Total Flight Time:

9.5 hours

Submitted by:

Debra Willett on 11/10/19

Flight Segments:

From:	YMHB	To:	YMHB
Start:	11/08/19 19:49 Z	Finish:	11/09/19 05:20 Z
Flight Time:	9.5 hours		
Log Number:	205003	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	4100 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.

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NASA Official: Marilyn Vasques

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