

OIB - Gulfstream V - JSC 11/08/19 Science Report

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

Date: Friday, November 8, 2019

Mission: OIB

Mission Location: Cook Flowlines

Mission Summary:

Mission: Cook Flowlines

Priority: High

This mission is designed to survey the two main flow lines which feed the Cook Ice Shelf. The eastern flow line addresses a large over-deepening and extends all the way to the ice divide. The western flow line addresses the trunk that feeds the portion of Cook Ice Shelf which collapsed during the observation record. These lines will connect older ICECAP and BAS WISE/ISODYNE surveys, and capture along-flow features in a region that is particularly sensitive to instability.

We rose two hours early in an ultimately vain attempt to survey a sea-ice racetrack mission, which would have underflew ICESat-2 at zero latency. Thanks in part to the Casey meteorologists, who kindly provided MODIS imagery very early in their duty day, we assessed that it was not to be. Instead, we opted for Cook Flowlines, mapping ice upstream of the terminus of this evolving and vulnerable ocean-terminating region. Both flowlines exceed 400 km in length and are among the longest OIB has ever flown. We flew the easternmost flowline first, breakout out of the clouds just in time to start the survey line. We descended through thick clouds offshore to the survey start point, but acquired good surface visibility with a sufficiently high ceiling to operate, 12 nm prior to the line. We broke out of the overcast completely, approximately 30 nm inland, to clear skies and light katabatic winds. The reverse sequence of events occurred during our northbound descent of the western flowline, and we successfully collected data all the way to the coastline on that line as well. All instruments working well and reporting 100% data collection. We performed a ramp pass at 2000 ft AGL on arrival at Hobart.

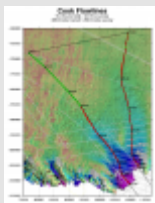
Today, OIB Project Manager Eugenia De Marco left for home, but not without ensuring we were well equipped to handle the remainder of the campaign. She worked tirelessly across many time zones to prepare for what is shaping up to a very successful campaign and possibly the smoothest stretch of surveying that OIB has ever had. The whole OIB team is very appreciative of her efforts.

Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Edge of the Cook Ice Shelf, under heavy overcast (John Sonntag / NASA).
3. Subtle, periodic surface features around 72.2S 145.9E that were only visible with certain sun angles (John Sonntag / NASA).
4. Our emotional support devil, comfortably wedged beneath the primary navigation display (John Sonntag / NASA).

Images:

Map of today's mission



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Edge of the Cook Ice Shelf, under heavy overcast



[Read more](#)

Subtle, periodic surface features around 72.2S 145.9E that were only



[Read more](#)

Our emotional support devil, comfortably wedged beneath the primary



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Submitted by: Joseph MacGregor on 11/10/19

Related Flight Report:

Gulfstream V - JSC 11/07/19 - 11/08/19

Flight Number: GV-64

Payload Configuration: OIB

Nav Data Collected: No

Total Flight Time: 10 hours

Submitted by: Debra Willett on 11/08/19

Flight Segments:

From:	YMHB	To:	YMHB
Start:	11/07/19 19:56 Z	Finish:	11/08/19 05:56 Z
Flight Time:	10 hours		
Log Number:	205003	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	4400 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.

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

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