

OIB - Gulfstream V - JSC 10/30/19 Science Report

Aircraft:

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

Date:

Wednesday, October 30, 2019

Mission:

OIB

Mission Location:

Antarctic Fall 2019: Hobart, Australia

Mission Summary:

Flight Report: 10/30/19

*OUTLOOK FOR TOMORROW: The forecasts tomorrow show bad weather and clouds in all areas of our East Antarctic science missions, thus we will take a hard down day. Weather looks more promising beginning Friday and we plan to fly then. All the team members have been **?flat out like a lizard drinking?** (Aussie slang for ?busy as a bee?) and we are all looking forward to a day off tomorrow.*

Mission: Denman 01

Priority: **High**

Today IceBridge flew about 40% of the high priority land ice mission Denman 01. Besides gathering this valuable data in a region of East Antarctica which has been largely under sampled, this mission was also used as a test of the range of the GV with our lighter load (only 3 non- GV crew OIB onboard) and fuel restraints and forecasted turbulence stress on the GV aircraft. Since the Denman missions are the farthest to the east of where we can fly, we were able to sample the northernmost line and flux gate of this mission and because of this plan to go back to this area throughout our campaign to survey the remaining lines of the Denman missions when other areas of East Antarctica are socked in.

Despite forecasts of strong winds in the Denman area this morning, turbulence was not as bad as predicted and thus the GV was able to fly the lines without any issues. Just as forecasted by 3 weather models, MODIS imagery and also very low-latency AVHRR imagery, OIB was greeted with clear skies in the Denman area. This AVHRR imagery has been shared with us by the Australian Bureau of Meteorology and from those located at Casey station and has been a great help thus far.

Denman glacier ice shelf is likely exposed to warm ocean waters similar to Totten Glacier and thus is an interesting area that needs to be further surveyed. The radar and gravity data collected today will help constrain the ice shelf thickness and the unknown cavity shape, giving us more information on the ocean-ice shelf interactions here.

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

None

Data volumes collected during today's mission, which consisted of 0.7 hours of data collection:

ATM: 11 Gb

CAMBOT: 19 Gb

FLIR: 1.4 Gb

Narrow Swath ATM: 16 Gb green

Narrow Swath ATM: 14 Gb IR

VNIR: 6 Gb

SWIR: 8 Gb

Snow Radar: 127 Gb

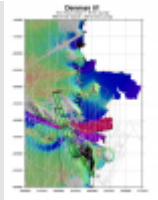
MCoRDS: 70 Gb

Gravity: 4.5 Gb

Images:

Figure 1





[Read more](#)

Figure 2



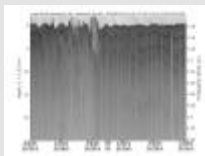
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Figure 3



[Read more](#)

Figure 4



[Read more](#)

Submitted by:

Linette Boisvert on 11/06/19

Related Flight Report:

Gulfstream V - JSC 10/29/19 - 10/30/19

Flight Number:

GV-58

Payload Configuration:

OIB

Nav Data Collected:

No

Total Flight Time:

10 hours

Submitted by:

Debra Willett on 10/30/19

Flight Segments:

From:	YMHB	To:	YMHB
Start:	10/29/19 22:11 Z	Finish:	10/30/19 08:09 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.

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