DC-8 - AFRC 11/11/18

Aircraft:
DC-8 - AFRC (See full schedule)
Flight Number:
1311
Payload Configuration:
OIB 2018 Configuration - ATM-Cambot, ATM-GPS/ATM-NAV, ATM-FLIR, ATM-T6, ATM-T7, Gravimeter, MCoRDS, UWB Snow RADAR, and piggybacks ARMAS & Tinman
Nav Data Collected:
Yes
Total Flight Time:
10.8 hours
Submitted by:
Timothy Moes on 11/12/18
Flight Segments:

From:	SAWH	**To:**	SAWH
Start:	11/11/18 13:04 Z	**Finish:**	11/11/18 23:52 Z
Flight Time:	10.8 hours		
Log Number:	198006	**PI:**	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	The NASA DC-8 OIB team completed the Thwaits - Getz 3 Beam IS-2 mission today. All OIB remote sensing instruments operated nominally with good results. The aircraft returned to Ushuaia with no writeups.		

Flight Hour Summary:

	198006
Flight Hours Approved in SOFRS	345.8
Total Used	292.8
Total Remaining	53

198006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/02/18	1287	Check	2.6	2.6	343.2	0
10/08/18	1289	Transit	10.1	12.7	333.1	0
10/08/18	1290	Transit	2.8	15.5	330.3	0
10/10/18 - 10/11/18	1291	Science	11.5	27	318.8	0
10/11/18 - 10/12/18	1292	Science	11.6	38.6	307.2	0
10/12/18 - 10/13/18	1293	Science	11.3	49.9	295.9	0
10/13/18 - 10/14/18	1294	Science	10.7	60.6	285.2	0
10/15/18 - 10/16/18	1295	Science	11.1	71.7	274.1	0
10/16/18 - 10/17/18	1296	Science	10.1	81.8	264	0
10/18/18 - 10/19/18	1297	Science	11.1	92.9	252.9	0
10/19/18 - 10/20/18	1298	Science	10.8	103.7	242.1	0
10/20/18 - 10/21/18	1299	Science	10.7	114.4	231.4	0
10/22/18 - 10/23/18	1300	Science	11.1	125.5	220.3	0

10/27/18 - 10/28/18	1301	Science	11.3	136.8	209	0
10/30/18 - 10/31/18	1302	Science	11.7	148.5	197.3	0
10/31/18 - 11/01/18	1303	Science	11.3	159.8	186	0
11/01/18	1304	Transit	0.6	160.4	185.4	0
11/03/18 - 11/04/18	1305	Science	11	171.4	174.4	0
11/04/18	1306	Science	10.8	182.2	163.6	0
11/05/18	1307	Science	10.4	192.6	153.2	0
11/07/18	1308	Science	10.4	203	142.8	0
11/09/18 - 11/10/18	1309	Science	11.1	214.1	131.7	0
11/10/18 - 11/11/18	1310	Science	10.6	224.7	121.1	0
11/11/18	1311	Science	10.8	235.5	110.3	0
11/12/18	1312	Science	10.7	246.2	99.6	0
11/14/18 - 11/15/18	1313	Science	11.2	257.4	88.4	0
11/15/18	1314	Science	10.3	267.7	78.1	0
11/16/18 - 11/17/18	1315	Science	10.1	277.8	68	0
11/19/18	1316	Transit	3.4	281.2	64.6	0
11/21/18	1317	Transit	11.6	292.8	53	0

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 - DC-8 - AFRC 11/11/18 Science Report

Mission:
OIB
Mission Summary:

Mission: Thwaites-Getz 3 Beam IS-2
Priority: Medium

This new mission is designed to fly all three beam pairs of two crossing, low-latency, ICESat-2 ground tracks. These two low-latency tracks can be placed anywhere between the eastern shear margin of Thwaites Glacier, and roughly the eastern end of the Getz Ice Shelf, and above the grounding line. The mission has been modified to account for the orbit of ICESat-2 later today and early tomorrow, which places it west of Mounts Murphy and Takahe and east of Toney Mountain, rather than the eastern shear margin of Thwaites Glacier (as originally nominally designed). That places this mission in a region that OIB has not surveyed previously except near the grounding zone.

The forecast for this region as expected the day prior, and we viewed this as potentially our best opportunity to both survey a difficult-to-reach region and collect time- and space-coincident ICESat-2 data over land ice. We also corrected for the as-best-presently-understood latitude-dependent off-pointing of ICESat-2 from its RGTs, so as to get our best opportunity yet to obtain near-coincident OIB data beneath ICESat-2 over land ice. Finally, we also opted to survey at 3200 ft AGL so that ATM T6 (wide scan) could sample both beams in a pair along each track, and so that we could remain with one of the ideal operation altitude windows for the snow radar. We performed a ramp pass at 2000 ft AGL. We passed over Pine Island Bay, with Pine Island Glacier barely visible, then Thwaites Glacier and Crosson Ice Shelf before descending to begin the survey. Skies were clear throughout, and our underflights of these beam pairs went very smoothly, with no turbulence. We were treated to excellent views of Mts. Murphy and Takahe. We did not operate T7-IR during this mission, because our survey altitude (~3200 ft AGL) was significantly higher than that for which ATM had observed consistent IR returns

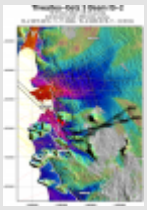
previously (~2000 ft AGL). CAMBOT failed for about 30 min two thirds of the way through the flight, and Headwall SWIR also malfunctioned again briefly. Otherwise, all instruments reported excellent data collection today.

ICESat-2 RGT / Latency (hours, positive = OIB underflight ahead of ICESat-2)
676 / +2
683 / +13.5

Attached images/files:
1. Map of today?s mission (John Sonntag / NASA)
2. KML of today?s mission (John Sonntag / NASA)
3. The southernmost extent of marginal rifting along the western flank of Crosson Ice Shelf (Joe MacGregor / NASA)
4. The armada of icebergs that remains of Thwaites Glacier?s ice tongue, with its eastern ice shelf visible on the left of the image (Joe MacGregor / NASA)
5. Mt. Takahe (John Sonntag / NASA)
6. Surface texture change west of Mt. Takahe (John Sonntag / NASA)

Images:

Map of today's mission



Read more

The southernmost extent of marginal rifting along the western flank

Read more

The armada of icebergs that remains of Thwaites Glacier?s ice

Read more

Mt. Takahe

Read more

Surface texture change west of Mt. Takahe

Read more

Submitted by:
Joseph MacGregor on 11/13/18

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