

DC-8 - AFRC 11/12/18

Aircraft: [DC-8 - AFRC](#) (See full schedule)

Flight Number: 1312

Payload Configuration: OIB 2018 Configuration - ATM-Cambot, ATM-GPS/ATM-NAV, ATM-FLIR, ATM-T6, ATM-T7, Gravimeter, MCoR Snow RADAR, and piggybacks ARMAS & Tinman

Nav Data Collected: Yes

Total Flight Time: 10.7 hours

Submitted by: Timothy Moes on 11/12/18

Flight Segments:

From:	SAWH	To:	SAWH
Start:	11/12/18 12:56 Z	Finish:	11/12/18 23:38 Z
Flight Time:	10.7 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 baseline Hamilton Line TAM Sector mission today completing the final 1/3rd of the 88 deg S latitude line around the South Pole. All OIB remote sensing instruments operated nominally with good results. The aircraft returned to Ushuaia with no write-ups.		

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 11/12/18 Science Report

Mission: OIB

Mission Summary:

Mission: Hamilton Line - TAM Sector
Priority: Baseline

This flight's purpose is to sample the surface topography at the southern apex of many ICESat-2 orbits. Specifically this flight samples the ground tracks on the Transantarctic Mountains sector of the Polar plateau. In this way, we can provide "ground truth" for every ICESat-2 orbit with just three flights. The vertical stability of the surface must also be quantified for this approach to succeed, and this flight provides a repeat measurement for this purpose. This flight provides 40 km of overlap with each adjacent Hamilton Line mission. Finally, we fly a short crossover line in the overlapped section with the Hamilton Line – Amery Sector mission. This mission also covers the ICESat-2 traverse route. flown in a counterclockwise direction. Renamed in 2016 in honor of Dr. Gordon Hamilton.

An unexpected change in forecast overnight led to an option that was not previously considered for today and which was ultimately possible to fly, thanks to quick work by the DC-8 crew. We flew a ramp pass at 1200 ft AGL. We observed a clouded over Antarctic Peninsula, with the peaks of Alexander Island occasionally peeking through. We then proceeded to the plateau and encountered excellent conditions, with clearing as forecast. This portion of the Hamilton Line, flown as per usual with rhumb line navigation, proceeded smoothly and uneventfully. We then did a loop at the end to cross-over the transect perpendicularly, and flew by South Pole station outside of the clean air zone. The return transit proceeded smoothly. All instruments reported 100% data collection, with no issues.

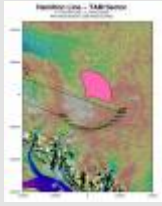
Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Northwestern Alexander Island, west of the Antarctic Peninsula, during our transit to the South Pole (Joe MacGregor / NASA)
3. Amundsen-Scott Station, South Pole (Hara Madhav Talasila / CReSIS)

4. Preliminary ATM T6 elevation swath along all of today's mission (Matt Linkswiler / NASA)

Images:

Map of today's mission



[Read more](#)

Northwestern Alexander Island, west of the Antarctic Peninsula,



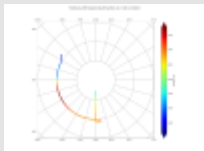
[Read more](#)

Amundsen-Scott Station, South Pole



[Read more](#)

Preliminary ATM T6 elevation swath along all of today's mission



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Submitted by: Joseph MacGregor on 11/13/18

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