

DC-8 - AFRC 11/10/18 - 11/11/18

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

Flight Number: 1310

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: 10.6 hours

Submitted by: Timothy Moes on 11/12/18

Flight Segments:

From:	SAWH	To:	SAWH
Start:	11/10/18 13:29 Z	Finish:	11/11/18 00:05 Z
Flight Time:	10.6 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 low priority Foundation Lakes IS-2 mission today. All OIB remote sensing instruments operated nominally (except for an IR imaging spectrometer data gap). 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 11/10/18 Science Report

Mission: OIB

Mission Summary:

Mission: Foundation Lakes IS-2

Priority: Low

This flight is a dh/dt repeat of the identical 15 October 2012 flight. It occupies straightened approximations of the Foundation and Support Force ice streams, and crosses several subglacial lakes in their upper portions. Many of the original lines were redesigned for 2018 along ICESat-2 ground tracks. For these tracks, we specifically target the strong beam of the center beam pair.

Another challenging weather decision today, which forced us back to the Ronne-Filchner Ice Shelf after a length consideration of West Weddell. We started out nicely with a ramp pass at 1500'. During the transit to the survey area, we determined that one of the ICESat-2 tracks we would fly (RGT 628) across upper Support Force Ice Stream would be fairly low latency, as ICESat-2 surveyed it only 2 days ago, somewhat elevating the value of the mission. We offset this track to account for our best present understanding of the ICESat-2 offset. The survey then proceeded uneventfully, but with new views of the north end of the Pensacola Mountains, and the shear zone where one of Foundation Ice Stream's tributaries meets its main trunk. We flew slightly slower (250 kts) than we have been lately over the two downstream sections of both ice streams, so as to maximize the quality of the gravity data over the grounded-to-floating ice transition. All instruments reported another great day, with 100% data collection. Thomas Prior, a photographer from National Geographic joined us again.

For the four ICESat-2 RGTs we surveyed today (2 Foundation, then 2 Support Force), their latencies were:

RGT / Latency (days, positive = OIB underflight ahead of ICESat-2)

1290 / +42

278 / -25

628 / -2

375 / -18

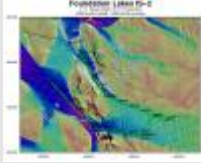
Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Subglacial trough and layering within Foundation Ice Stream (Hara Madhav Talasila / CReSIS)

3. DC-8 chasing its shadow up a tributary of Foundation Ice Stream, with Pensacola Mountains in background (Joe MacGregor / NASA)
4. Crevasse field on Foundation Ice Stream (Carl Sorenson / NASA)
5. Dufek Massif and Cordiner Peaks (John Sonntag / NASA)
6. Ushuaia, Argentina, following take-off (Carl Sorenson / NASA)

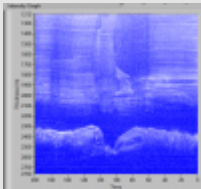
Images:

Map of today's mission



[Read more](#)

Subglacial trough and layering within Foundation Ice Stream



[Read more](#)

DC-8 chasing its shadow up a tributary of Foundation Ice Stream,



[Read more](#)

Crevasse field on Foundation Ice Stream



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Dufek Massif and Cordiner Peaks



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Ushuaia, Argentina, following take-off



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Submitted by: Joseph MacGregor on 11/13/18

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