

DC-8 - AFRC 11/09/18 - 11/10/18

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

Flight Number: 1309

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: 11.1 hours

Submitted by: Timothy Moes on 11/12/18

Flight Segments:

From:	SAWH	To:	SAWH
Start:	11/09/18 13:08 Z	Finish:	11/10/18 00:13 Z
Flight Time:	11.1 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 Support Force Upper Blackwell IS-2 mission today. All OIB remote sensing instruments operated nominally except for the SWIR channels on the Headwall imaging spectrometer which had some problems. 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 11/09/18 Science Report

Mission: OIB

Mission Summary:

Mission: Support Force / Upper Blackwall IS-2
Priority: Low

This new flight is designed to survey the channel of Support Force and upper Blackwall Glacier, mostly along ICESat-2 ground tracks. For these tracks, we specifically target the strong beam of each beam pair. The cross-flow lines also address gaps in Bedmap-2 coverage.

We were yet again faced with very challenging weather west of the Antarctic Peninsula and at the pole, and poor conditions for our one remaining baseline mission east thereof (West Weddell). We thus selected one of two low-priority missions with clear skies and a good forecast, opting for the one that most tightly constrained. We performed a ramp pass at 1200 ft AGL. We transited over the Antarctic Peninsula at high altitude and observed cloudy conditions on the north end of Larsen C, but otherwise excellent views of most of the Antarctic Peninsula. Clouds returned across most of the Ronne Ice Shelf, but conditions were clear as we descended and throughout our survey. While surveying Support Force Ice Stream, we passed in between the sub-ranges on the northern end of the Pensacola Mountains. Those four tracks proceeded quickly and uneventfully. To cross the two fluxgates across Blackwall Ice Stream as straight as possible, we performed 270° turns prior to surveying those fluxgates. All instruments performed well, except for the SWIR channels on the Headwall imaging spectrometer, for which an issue was experienced mid-flight and data collection was limited.

Thomas Prior, a National Geographic photographer, joined us again for this mission, and Adrian Uzubiga from a local Argentinian television station (Canal 13), also joined us, conducting multiple interviews and collecting footage.

For the six ICESat-2 RGTs we surveyed today (4 Support Force, 2 Blackwall), their latencies were:

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

1198 / +37 days
817 / +12
314 / -21
1320 / +45
466 / -11
1167 / +35

Finally, here is an example of the data volumes collected during today's three hours of survey time:

ATM on/off UTC	17:25–20:25
ATM T6	54 GB
ATM T7 green	71 GB
ATM T7 IR	67 GB
ATM percentage	100%
CAMBOT	87 GB
FLIR	7 GB
Headwall	60 GB
MCoRDS	778 GB
Snow radar	606 GB
AIRGrav	4.0 GB

Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Panorama of outlet glaciers on western flank of northwestern Antarctic Peninsula (Ray Perigo / CReSIS)
3. DC-8 shadow over Support Force Ice Stream (Joe MacGregor / NASA)
4. Conically shaped sastrugi on the surface of Support Force Ice Stream (Joe MacGregor / NASA)

Images:

Map of today's mission



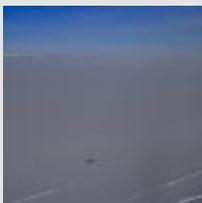
[Read more](#)

Panorama of outlet glaciers on western flank of northwestern



[Read more](#)

DC-8 shadow over Support Force Ice Stream



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Conically shaped sastrugi on the surface of Support Force Ice Stream



[Read more](#)

Submitted by: Joseph MacGregor on 11/13/18

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