

DC-8 11/09/16 - 11/10/16

Aircraft:

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

Flight Number:

1156

Payload Configuration:

OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CAMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV GRAVIMETER & ARMAS (piggyback)

Nav Data Collected:

Yes

Total Flight Time:

11.7 hours

Submitted by:

Timothy Moes on 11/13/16

Flight Segments:

From:	SCCI - Punta Arenas	To:	SCCI
Start:	11/09/16 12:55 Z	Finish:	11/10/16 00:34 Z
Flight Time:	11.7 hours		
Log Number:	178010	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Good flight. A ramp overpass calibration was flown at 1200 ft AGL at the start of the mission. This was a partially a new mission, designed to collect baseline measurements along planned IceSat-2 ground tracks. Most of the lines were located between the Pine Island and Thwaites channels. All instruments are healthy and worked during the flight. Only data losses were due to clouds but only resulted in about 15-20 minutes of data loss overall. The aircraft had two minor writeups that will be looked into post-flight.		

Flight Hour Summary:

	178010
Flight Hours Approved in SOFRS	300
Total Used	306.9
Total Remaining	-6.9

178010 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/04/16	1135	Science	4	4	296	
10/05/16	1136	Science	2.7	6.7	293.3	
10/12/16	1138	Transit	10.9	17.6	282.4	
10/12/16	1139	Transit	3	20.6	279.4	
10/14/16 - 10/15/16	1140	Science	10.9	31.5	268.5	
10/15/16 - 10/16/16	1141	Science	11.8	43.3	256.7	
10/17/16 - 10/18/16	1142	Science	11.8	55.1	244.9	
10/20/16 - 10/21/16	1143	Science	11.4	66.5	233.5	
10/22/16	1144	Science	11	77.5	222.5	
10/24/16 - 10/25/16	1145	Science	11.5	89	211	
10/25/16 - 10/26/16	1146	Science	11.3	100.3	199.7	
10/26/16 - 10/27/16	1147	Science	12.1	112.4	187.6	

10/27/16 - 10/28/16	1148	Science	11.5	123.9	176.1
10/28/16 - 10/29/16	1149	Science	11	134.9	165.1
10/31/16 - 11/01/16	1150	Science	11	145.9	154.1
11/02/16 - 11/03/16	1151	Science	11.2	157.1	142.9
11/03/16 - 11/04/16	1152	Science	11.5	168.6	131.4
11/04/16 - 11/05/16	1153	Science	11.1	179.7	120.3
11/05/16 - 11/06/16	1154	Science	11.7	191.4	108.6
11/07/16 - 11/08/16	1155	Science	11.2	202.6	97.4
11/09/16 - 11/10/16	1156	Science	11.7	214.3	85.7
11/10/16	1157	Science	10.9	225.2	74.8
11/11/16 - 11/12/16	1158	Science	11.3	236.5	63.5
11/12/16 - 11/13/16	1159	Science	11.1	247.6	52.4
11/14/16	1160	Science	10.9	258.5	41.5
11/15/16 - 11/16/16	1161	Science	11.6	270.1	29.9
11/17/16 - 11/18/16	1162	Science	11.1	281.2	18.8
11/18/16 - 11/19/16	1163	Science	11.1	292.3	7.7
11/21/16	1165	Transit	11.6	303.9	-3.9
11/21/16	1164	Transit	3	306.9	-6.9

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 11/09/16 Science Report

Mission:

OIB

Mission Summary:

IceBridge successfully completed the high priority ICESat-2 WAIS Cores mission. This is partially a new mission, designed to collect baseline measurements along planned ICESat-2 ground tracks. Most of the lines are located between the Pine Island and Thwaites channels, where the ice is expected to change relatively slowly, making this a suitable area for comparisons with future ICESat-2 measurements. It is also an area with relatively few dh/dt measurements collected to date, making it desirable to collect measurements of background change rates outside the fast-changing outlets. The lines also broad the ice types measured with overflights of ICESat-2 ground tracks over lower Thwaites and upper Pine Island channels. We targeted left, center and right IS-2 beam pairs each with two ground tracks. The western portion of the flight is a partial repeat of the 2011 WAIS Cores mission, which crosses the WAIS ice divide and also overflies several ice core sites.

During the previous day, the narrow and wide scan ATM lasers were swapped after a failure of the chiller on the previous flight. Due to this swap, prior to the ramp pass at the start of the flight ATM aligned their systems quickly to calibrate their system. The two laser systems were ran simultaneously for a short time on the data line, then the narrow scan system was turned off to be used as a backup system in case of future need. The ATM wide scan system worked nominally during the flight.

Weather for the mission was quite good, though there were a few areas of clouds. ATM lost about seven minutes of data due to fog on the northern part of the Pine Island channel near the start of the data line. Some thin clouds were present on the southwestern portion of the line near the core sites, though these were generally above the plane and didn't have much of an impact on data collection. ATM also lost about two minutes of data for a computer reboot on transit to the core sites. Lastly, ATM and DMS lost a few minutes of data due to clouds near the end of the line over Thwaites, though it cleared out quickly near the Thwaites ice tongue where we achieved good data collection until the end of the line. Overall, it was another very successful mission with only a small amount of data lost due to weather and instrument issues.

Data volumes

ATM: T5: Used only as backup during ramp pass and about 30 minutes at start of line T6: 29 Gb

FLIR: 10.6 Gb

Cambot: 33 Gb

DMS: 83.8 Gb

Snow/Ku radars: 501 Gb each

MCoRDS: 1.3 Tb

AIRGrav: 5 Gb

data on: 1611

data off: 2108

File:

[ICESat2_WAIS_Cores_Map.pdf](#)

Submitted by:

Nathan T. Kurtz on 11/09/16

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